

# Memorandum

## City of Lawrence

### Public Works Department

**TO:** David L. Corliss, City Manager  
**FROM:** Charles F. Soules, Public Works Director  
Tammy Bennett, Assistant Public Works Director  
Steve Stewart, Fleet Manager  
**CC:** Diane Stoddard, Assistant City Manager  
Cynthia Wagner, Assistant City Manager  
Ed Mullins, Finance Director  
Casey Toomay, Budget Manager  
Ron Olin, Chief of Police  
Mark Bradford, Fire Medical Chief  
Jim Denney, Douglas County Radio Manager  
**Date:** March 10, 2010  
**RE:** Solid Waste Division radio system replacement

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Please place the following item on the March 23, 2010 City Commission consent agenda:

*Approve purchase of 69 - 800 MHz radio units for the Public Works Department / Solid Waste Division for \$133,256.30 from TFMComm Inc., through a cooperative bid on the State of Kansas contract.*

#### **Background:**

The Public Works Department Solid Waste Division must replace their radio system by the end of May 2010.

The division has operated a 220 MHz trunked radio system for communication and management of the solid waste crews in collection, processing, and maintenance operations. The division owned the radios and rented tower access. The department has been planning to replace the radio systems in both the Solid Waste Division (220 MHz system) and the Street Division (old VHF system) by the 2013 FCC deadline for all radio systems to go to digital bands. Public Works functions are classified as public safety by Homeland Security. The long-term plan for the radio system replacement has been to transition to the public safety band of the 800 MHz infrastructure owned by the City / County.

Due to complications beyond the control or planning of the City of Lawrence, the 220 MHz band was shut down by the FCC on March 1, 2010. The elimination of the band left the entire solid waste fleet without a communications systems. Employees used personal cell phones for two days to accomplish basic communication, then TFMComm provided a loaner (hand-held analog VHF system) that we can use as a stop-gap measure until the end of May. All radios and charging equipment must be returned no later than May 31, 2010.

**Recommendation:**

The Public Works Department recommends replacement of the current radio system with the 800 MHz system, using the Public Safety band. The operational advantages of the 800 MHz are numerous, including:

- Interoperability during emergency operations with police, fire, highway patrol, KDOT, and the turnpike authority.
- Priority restoration of services in the event of tower damage or equipment failure.
- City / County ownership of the 800 MHz infrastructure eliminates vulnerability of the radio system in the future.
- Elimination of monthly trunking fees (currently over \$16,000 per year), access or service charges.
- The plan is consistent with the Radio Task Force recommendations from 1994 and continues to have the support of police, fire medical, and emergency communications center.

Attached is a brief summary of costs comparisons for replacement of the 220 MHz system. The cost comparisons cover city payment, financing on a lease purchase arrangement through the Kansas Department of Transportation Revolving Loan Fund, and a brief estimate of replacement of the radio system with cell phone technologies. The department recommends the City of Lawrence purchase the radio equipment from TFMComm Inc., using the State of Kansas bid pricing.

**Recommended Action:**

Approve purchase of 69 - 800 MHz radio units for the Public Works Department / Solid Waste Division for \$133,256.30 from TFMComm Inc., through a cooperative bid on the State of Kansas contract.

## Comparison of financing and alternatives

### OPTION A: Equipment reserve, 8 year pay-back

Solid Waste	model	number	price	total
Suprvr	XTL2500	5	3,000.12	15,000.60
Suprvr	XTS2500MII	5	3,048.53	15,242.65
RearLoad	XTL1500	26	1,748.90	45,471.40
Roll Off	XTL1500	7	1,748.90	12,242.30
Frt Load	XTL1500	5	1,748.90	8,744.50
Hook Lift	XTL1500	4	1,748.90	6,995.60
Light Trucks	XTL1500	7	1,748.90	12,242.30
Maintenance	XTL1500	9	1,748.90	15,740.10
Handheld	XTS1500M1.5	1	1,576.85	1,576.85
		69		133,256.30
Funding Source: Equipment reserve				133,256.30
Financing Costs: no additional fees				-
Total costs to be repaid				133,256.30
Payback per year on				
10 year plan				13,325.63
<b>8 year plan</b>				<b>16,657.04</b>
6 year plan				22,209.38
Operational impact to division:				
8 year payback plan has no operational impact.				
Currently pay approximately \$16,000 per year for trunk system				

### Estimated 12 year cost:

initial purchase	133,256.30
radio maintenance (\$1000 / year)	10,000.00
2013 reprogramming requirement	27,600.00
	170,856.30

### OPTION B: KDOT Financing plan, state contract pricing

Solid Waste	model	number	price	total
Suprvr	XTL2500	5	3,000.12	15,000.60
Suprvr	XTS2500MI	5	3,048.53	15,242.65
RearLoad	XTL1500	26	1,748.90	45,471.40
Roll Off	XTL1500	7	1,748.90	12,242.30
Frt Load	XTL1500	5	1,748.90	8,744.50
Hook Lift	XTL1500	4	1,748.90	6,995.60
Light Trucks	XTL1500	7	1,748.90	12,242.30
Maintenance	XTL1500	9	1,748.90	15,740.10
Handheld	XTS1500M:	1	1,576.85	1,576.85
		69		133,256.30
Funding Source: KDOT lease purchase				133,256.30
Financing Costs: lease admin fee \$250/unit				17,250.00
Total costs to be repaid				150,506.30
Annual payments (12 year lease purchase)				12,542.19
Currently pay approximately \$16,000 per year for trunk system				

### Estimated 12 year cost:

initial purchase	150,506.30
radio maintenance	-
2013 reprogramming requirement	27,600.00
	178,106.30

OPTION C: Cell phone alternative (estimated)

Solid Waste	number	price	total
Phone units (install kits, accessories)	69	100.00	6,900.00
Annual est monthly service fees	\$45	37,260.00	37,260.00
			-
			44,160.00
Funding Source: Operational budget			44,160.00
Operational impact to division:			
Increase annual costs by \$30,000. No pay-off date. Costs on-going.			
Significant negative operational impacts to supervising crews on route.			

Estimated 12 year cost:

annual monthly service fees * 12	447,120.00
accessories, replacements (\$1000 / year)	12,000.00
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	459,120.00