



Frequency Reconfiguration Agreement Cost Metrics

On January 8, 2007, the Federal Communications Commission (FCC) released an Order instructing the 800 MHz Transition Administrator, LLC (TA) to make available a set of cost metrics comprised of licensee reconfiguration implementation costs and rates, based on system size. The TA has expanded the metrics to include 17 cost categories and sub-categories found in a licensee's cost estimate. These metrics have been gathered from the 978 Frequency Reconfiguration Agreements (FRAs) approved as of January 1st 2015, (including amendments, where applicable) for Stage 2 Public Safety licensees and include:

- Aggregate implementation costs for reconfiguration of 800 MHz Public Safety systems broken down by size,
- Median reconfiguration costs and cost ranges by implementation cost category,
- Median incumbent licensee and vendor labor rates by implementation cost category, and
- Distributions of incumbent licensee and vendor costs across all implementation cost categories.

The TA expects that this information should prove beneficial to Public Safety licensees in the preparation of cost estimates for their FRAs and will expedite the negotiation of FRAs.

Updated FRA Cost Metrics

On May 28, 2010, the TA updated the FRA Cost Metrics to include finer divisions of two key system size parameters – number of subscriber units and number of repeaters. The updated metrics provide licensees and Sprint Nextel with more granular cost metrics information for these new groupings. Starting with the data as of April 30, 2010 and going forward, the FRA Cost Metrics include the following modifications to the presentation of the metrics data:

- Subscriber unit-based metrics include two new groupings resulting from splitting the former 4001-10000 subscriber units group into groups of 4001-6000 and 6001-10000 subscriber units.
- Repeater-based metrics include three new groupings resulting from splitting the former greater than 10 repeaters group into groups of 11-55, 56-145 and greater than 145 repeaters.

These new groupings are a result of continuous additions to the number of FRAs in general and the increase in number of FRAs with certain system characteristics in particular. These changes will also be reflected in the Cost Metrics Comparison Reports provided to licensees and Sprint Nextel at the start of FRA negotiations.

The FRA data is provided for informational purposes only. Licensee reconfiguration costs can and do vary based on a number of factors. The TA reviews all licensee cost estimates and will approve for reimbursement any reasonable and prudent expenses directly related to the reconfiguration of the licensee's 800 MHz system. Licensees must document all their costs and services and certify that their costs are the "minimum necessary" to provide facilities comparable to those presently in use. For additional information, visit the TA's website at www.800TA.org or contact the TA by phone at 1-888-800-8220 or via email at comments@800TA.org

The TA updates the FRA Cost Metrics on its website on a monthly basis.

Cost Metrics Comparison Reports

The TA prepares a Cost Metrics Comparison Report following the submittal of a cost estimate. The report compares the costs in a licensee's cost estimate to the FRA Cost Metrics for similarly sized Public Safety reconfigurations (in terms of number of subscriber units and repeaters). The report shows the licensee's proposed costs in 17 cost categories as compared to the 25th, 50th, and 75th percentiles in the FRA Cost Metrics. In 12 cost categories, the licensee's proposed costs are compared to FRAs for licensees in the same subscriber unit count range (e.g., 2001-4000 subscriber units). In 5 cost categories, the licensee's proposed costs are compared to FRAs for licensees in the same repeater count range (e.g., 6-10 repeaters). The comparative database used to generate Cost Metrics Comparison Reports includes all approved FRAs (including amendments, where applicable) for Stage 2 Public Safety licensees.

The Cost Metrics Comparison Report provides parties that are in negotiations with information on a range of reconfiguration costs for licensees with systems of similar size. The TA anticipates that the report will serve as a baseline to be used during the negotiation and mediation process and will expedite the negotiation of FRAs.

Use of Cost Metrics Comparison Reports in Negotiations and Mediation

- The TA prepares a Cost Metrics Comparison Report when a licensee submits its cost estimate. The TA mediator provides the Cost Metrics Comparison Report to the licensee and Sprint Nextel when a *Notice of Commencement of Negotiations* is issued at the onset of FRA negotiations.

- If negotiations and mediation between the licensee and Sprint Nextel do not result in an agreement, and there are cost issues in dispute, the TA will generate Final Cost Metrics Comparison Reports comparing the final offers of the parties to the FRA Cost Metrics.
- The Final Cost Metrics Comparison Reports will be made part of the mediation record. The parties will have five days to comment on the Final Cost Metrics Comparison Reports. The TA mediator may consider the Final Cost Metrics Comparison Reports and the parties' comments as part of the Recommended Resolution.
- Additional information about the use of Cost Metrics Comparison Reports in mediation can be found in the TA's Alternative Dispute Resolution (ADR) Plan, which is available on the TA's website at http://www.800TA.org/content/resources/ADR_Plan.pdf.

Detailed Cost Metrics Data

Following the receipt of a Cost Metrics Comparison Report and upon request by a licensee or Sprint Nextel, the TA will provide a detailed metrics report containing certain underlying data about the similarly sized FRAs used in preparing the Cost Metrics Comparison Report for that licensee. This report provides the following information about those licensees' FRAs: Subscriber Unit Count Category, Subscriber Unit Count, Number of Fixed Sites, System Type (e.g., conventional, trunked, or simulcast), System Vendor, Contract Value, Repeater Count Category, Repeater Count, Multiple Subscriber touches, and Number of Mobiles and Portables being (1) retuned, (2) reflashed/reprogrammed, and (3) replaced. It also provides the specific costs in each of the 17 cost categories in those FRAs.

Sample Cost Metrics Comparison Report

Below are samples of the analysis chart and the tabular comparison metrics data in a Cost Metrics Comparison Report. The chart and table show the costs in the licensee's cost estimate as compared to the 25th, 50th, and 75th percentiles in the FRA Cost Metrics.

Figure 1 - Sample Cost Metrics Comparison Report Chart

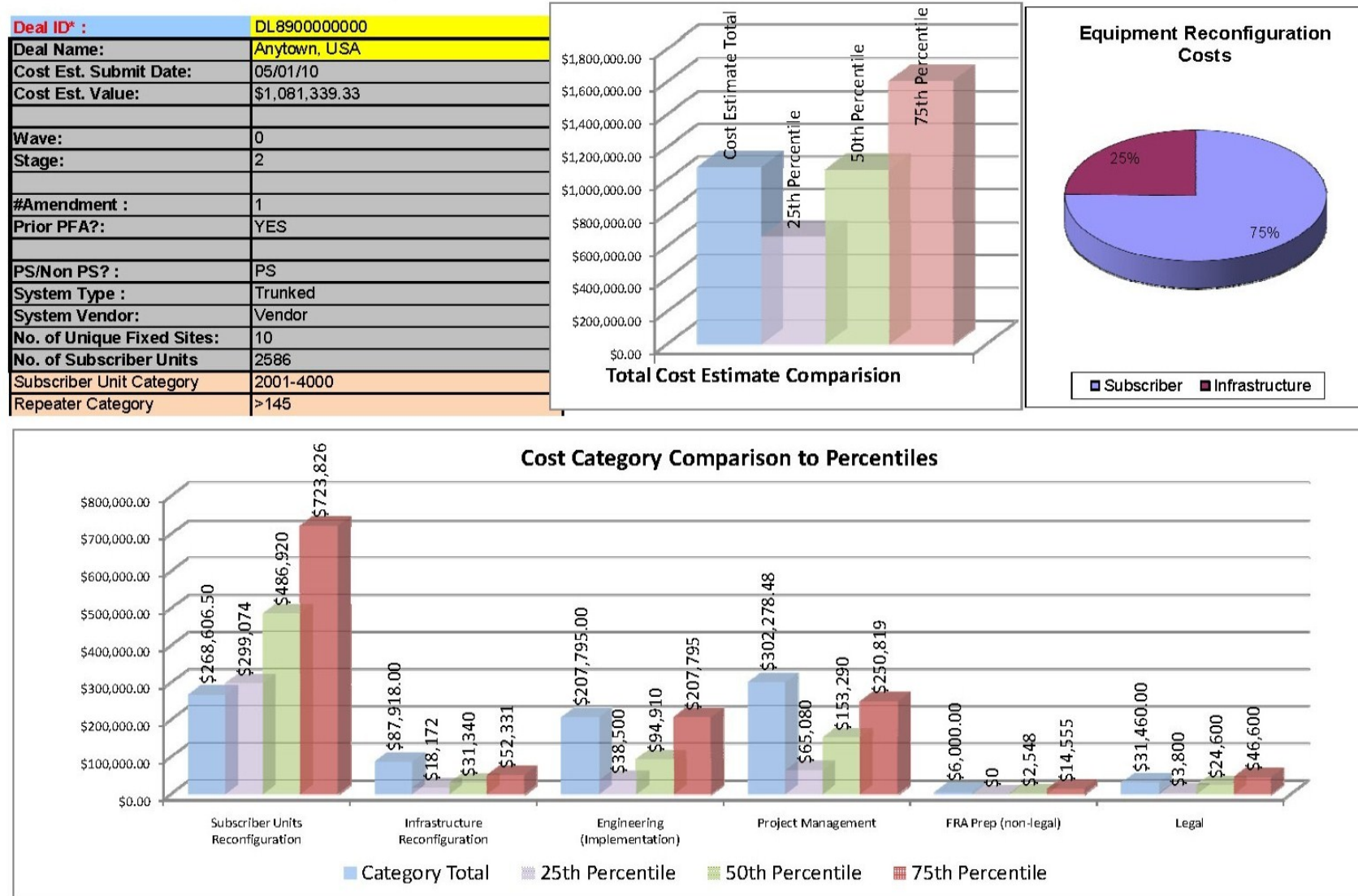


Figure 2 - Sample Cost Metrics Comparison Report Table

Deal ID* :	DL8900000000	Anytown, USA		
Cost Estimate Total	\$1,081,339.33			
No. of Unique Fixed Sites:	10	Category	# Deals in Category	# of Amds in the data
No. of Subscriber Units	2586	2001-4000	93	112
No. of Repeaters	219	> 145	177	see NOTE below
Total Deal Costs	\$1,081,339.33	Percentile Rank	51%	

Cost Estimate Task/Category Data Breakdown and Comparison									Data as of:	5/1/2010
	Subscriber Units Reconfiguration	Infrastructure Reconfiguration	Engineering (Implementation)	Project Management	Interim Equipment / Overlay Systems Costs	Training	Performance Tests - Baseline Testing	Performance Tests - Acceptance Testing	FRA Preparation and Completion (Non-legal)	
Category Total	\$ 268,606.50	\$ 87,918.00	\$ 207,795.00	\$ 302,278.48	\$ 7,470.00	\$ -	\$ 33,301.50	\$ 37,793.50	\$ 6,000.00	
Percentage of Deal Total	24.84%	8.13%	19.22%	27.95%	0.69%	0.00%	3.08%	3.50%	0.55%	
25th Percentile	\$299,074	\$18,172	\$38,500	\$65,080	\$0	\$0	\$912	\$3,283	\$0	
50th Percentile	\$486,920	\$31,340	\$94,910	\$153,290	\$0	\$0	\$4,092	\$9,120	\$2,548	
75th Percentile	\$723,826	\$52,331	\$207,795	\$250,819	\$10,000	\$4,160	\$10,778	\$24,610	\$14,555	
Percentile Rank	21%	91%	75%	84%	70%	0%	92%	85%	62%	

	Pre-Implementation Planning	Legal	Subscriber Unit Travel	Infrastructure Travel	All Other Travel	Contingency	Material Expense (Subscriber)	Material Expense (Infrastructure)	Total Costs Calculated	
Category Total	\$ -	\$ 31,460.00	\$ 3,507.00	\$ 22,226.25	\$ 36,335.00	\$ -	\$ -	\$ 36,648.10	\$ 1,081,339.33	
Percentage of Deal Total	0.00%	2.91%	0.32%	2.06%	3.36%	0.00%	0.00%	3.39%	100.00%	
25th Percentile	\$0	\$3,800	\$3,833	\$0	\$7,665	\$0	\$0	\$0	\$ 662,273.85	
50th Percentile	\$0	\$24,600	\$14,070	\$5,349	\$22,171	\$0	\$0	\$15,619	\$ 1,065,833.31	
75th Percentile	\$8,125	\$46,600	\$35,785	\$12,042	\$45,532	\$0	\$1,550	\$77,794	\$ 1,608,973.04	
Percentile Rank	0%	61%	24%	91%	70%	0%	0%	64%	51%	

NOTE: In the table above, the 5 Infrastructure related costs Categories with totals highlighted in Orange are ranked against FRA metrics based on Repeater count instead of Subscriber Unit count.

Per Subscriber Unit Cost Calculation				
		Mobiles - per Unit Cost ^ Unit Calculation		Portables - per Unit Cost ^ Unit Calculation
		\$34,580.00 / 259 units = \$/unit		\$221,065.00 / 2327 units = \$/unit
		This Deal \$133.51		This Deal \$95.00
		25th Percentile \$ 89.05		25th Percentile \$ 52.07
		50th Percentile \$ 124.56		50th Percentile \$ 64.47
		75th Percentile \$ 173.45		75th Percentile \$ 88.35
		Percentile Rank 54%		Percentile rank 84%
		^ 1st touch radio retune labor costs ONLY, Excluding carrying costs/oversight/material or other misc subscriber related costs.		

Repeater Cost Calculation	
# of Repeaters	Repeater Retune costs
219	\$50,589.00
25th Percentile	\$4,600.00
50th Percentile	\$7,826.00
75th Percentile	\$14,592.00
Percentile Rank	97%
Per Repeater Cost (This Deal)	\$231.00
25th Percentile	\$195.89
50th Percentile	\$349.57
75th Percentile	\$611.91
Percentile Rank	33%

Subscriber Unit Quantity Detail		
	Mobiles	Portables
RETUNE	102	199
REPROGRAM	157	2128
REPLACE	0	0
Sub-Totals	259	2327
Subscriber Unit Total	2586	

Equipment Reconfiguration Costs		
Subscriber	Infrastructure	Total
\$268,607	\$87,918	\$356,525
75.34%	24.66%	

Section I: Median Costs for the Reconfiguration of 800 MHz Systems

Median licensee costs and percentiles for approved FRAs are provided in the tables below for 17 categories and subcategories of reconfiguration implementation costs, including Subscriber Units Reconfiguration, Infrastructure Reconfiguration, Engineering (Implementation), Project Management, Interim Equipment / Overlay Systems Costs, Training, Performance Tests – Baseline Testing, Performance Tests – Acceptance Testing, FRA Preparation and Completion (Non-legal), Pre-Implementation Planning, Legal, Subscriber Travel, Infrastructure Travel, All Other Travel, Contingency, Material Expense (Subscriber), and Material Expense (Infrastructure).

Additional information regarding these tasks is provided in the Guidelines for Preparing a Cost Estimate, available on the TA's website at http://www.800ta.org/content/resources/Cost_Estimate_Guidelines.pdf.

Eight ranges of system size are provided at this time: 0 subscriber units, 1-500 subscriber units, 501-1000 subscriber units, 1001-2000 subscriber units, 2001-4000 subscriber units, 4001-6000 subscriber units, 6001-10000 subscriber units and greater than 10000 subscriber units. For each range, the median value is provided – that is, the value that reflects the middle of the set of costs reviewed and approved by the TA. The 25th percentile and the 75th percentile are also provided for each implementation cost category. It is important to note that the metrics change over time as additional FRAs are submitted and approved by the TA. In some cases the median value in a category is zero, meaning that more than half of the licensees in that range did not have estimated costs in that particular category.

These reconfiguration costs are extracted from the Cost Estimates presented in Schedule C of the FRA. As such, these figures do not include the cost of actual replacement equipment provided to incumbent licensees by Sprint Nextel and listed in Schedule D of the FRA. Hardware costs associated with the replacement equipment noted in Schedule C are included in the Material Expense (Subscriber) and Material Expense (Infrastructure) categories in the tables below.

Prior to 2009, the TA provided a single set of metrics covering all Public Safety FRAs in Stages 1 and 2. Beginning in September 2009, the metrics provided in the following tables cover Public Safety FRAs in Stage 2 only.

Table 1 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Median Reconfiguration Costs and Cost Ranges by Number of Subscriber Units Reconfigured

Number of Subscriber Units	Number of FRAs In Data Set	Total Reconfiguration Costs		
		25th Percentile	Median	75th Percentile
0	56	\$3,802	\$8,580	\$126,197
1-500	364	\$10,639	\$38,311	\$112,028
501-1000	165	\$150,821	\$304,487	\$476,772
1001-2000	165	\$350,988	\$657,434	\$1,099,520
2001-4000	106	\$782,267	\$1,221,291	\$1,631,375
4001-6000	47	\$1,436,547	\$1,855,500	\$2,472,243
6001-10000	41	\$2,755,208	\$3,545,485	\$4,856,010
>10000	34	\$3,954,237	\$6,323,783	\$12,620,815

Table 2 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Median Reconfiguration Costs and Cost Ranges by Implementation Cost Category

Number of Subscriber Units in the System	Subscriber Units Reconfiguration			Engineering (Implementation)			Project Management		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
0				\$0	\$0	\$3,170	\$0	\$750	\$10,625
1-500	\$4,630	\$14,566	\$34,560	\$0	\$0	\$6,728	\$375	\$4,786	\$17,283
501-1000	\$56,498	\$106,272	\$170,092	\$2,390	\$21,093	\$52,101	\$22,400	\$46,042	\$79,011
1001-2000	\$160,069	\$236,733	\$373,017	\$13,147	\$50,800	\$102,033	\$48,810	\$93,562	\$156,635
2001-4000	\$282,552	\$512,989	\$720,083	\$46,829	\$114,055	\$233,303	\$100,532	\$176,938	\$288,995
4001-6000	\$594,401	\$918,360	\$1,144,599	\$79,754	\$172,477	\$305,858	\$178,491	\$292,450	\$377,817
6001-10000	\$1,211,334	\$1,856,646	\$2,215,148	\$111,350	\$314,999	\$592,965	\$311,607	\$467,016	\$712,681
>10000	\$2,218,933	\$3,306,233	\$5,534,101	\$514,720	\$676,936	\$1,752,559	\$349,866	\$990,981	\$1,939,462

(Table 2 continued)

Number of Subscriber Units in the System	Interim Equipment / Overlay Systems Costs			Training			FRA Preparation and Completion (Non-legal)		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$600
1-500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$525
501-1000	\$0	\$0	\$682	\$0	\$0	\$0	\$0	\$0	\$6,000
1001-2000	\$0	\$0	\$8,000	\$0	\$0	\$4,575	\$0	\$250	\$10,550
2001-4000	\$0	\$0	\$13,054	\$0	\$0	\$6,774	\$0	\$3,095	\$14,516
4001-6000	\$0	\$0	\$24,212	\$0	\$0	\$1,585	\$0	\$10,429	\$21,698
6001-10000	\$0	\$23,640	\$70,620	\$0	\$1,703	\$47,706	\$0	\$6,836	\$38,497
>10000	\$0	\$19,980	\$168,708	\$0	\$0	\$13,106	\$0	\$2,962	\$31,864
Number of Subscriber Units in the System	Pre-Implementation Planning			Legal			Subscriber Travel		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
0	\$0	\$0	\$118	\$0	\$738	\$5,245	\$0	\$0	\$0
1-500	\$0	\$0	\$2,153	\$0	\$590	\$6,625	\$0	\$0	\$1,612
501-1000	\$0	\$0	\$6,750	\$566	\$9,658	\$27,507	\$0	\$2,459	\$9,702
1001-2000	\$0	\$0	\$5,600	\$5,450	\$24,075	\$45,818	\$67	\$6,819	\$24,492
2001-4000	\$0	\$0	\$4,237	\$4,238	\$28,209	\$53,130	\$4,508	\$14,163	\$37,249
4001-6000	\$0	\$0	\$2,708	\$9,428	\$28,135	\$59,253	\$7,379	\$28,123	\$70,836
6001-10000	\$0	\$0	\$3,644	\$25,500	\$65,411	\$120,811	\$16,617	\$61,273	\$196,650
>10000	\$0	\$0	\$16,365	\$22,341	\$79,669	\$118,610	\$35,229	\$182,200	\$386,045
Number of Subscriber Units in the System	All Other Travel			Contingency			Material Expense (Subscriber)		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
0	\$0	\$0	\$1,299	\$0	\$0	\$0	\$0	\$0	\$0
1-500	\$0	\$0	\$2,522	\$0	\$0	\$0	\$0	\$0	\$0
501-1000	\$0	\$4,390	\$12,241	\$0	\$0	\$0	\$0	\$0	\$0
1001-2000	\$441	\$7,392	\$22,796	\$0	\$0	\$0	\$0	\$0	\$1,916
2001-4000	\$5,576	\$20,767	\$43,586	\$0	\$0	\$0	\$0	\$0	\$2,725
4001-6000	\$12,885	\$32,446	\$51,551	\$0	\$0	\$6,200	\$0	\$0	\$9,213
6001-10000	\$19,137	\$56,957	\$98,632	\$0	\$0	\$13,975	\$0	\$5,605	\$68,261
>10000	\$23,573	\$78,546	\$165,036	\$0	\$0	\$42,039	\$0	\$9,180	\$68,854

Section II: Median Incumbent Licensee and Vendor Rates (hourly)

In the tables below, median incumbent licensee and vendor labor rates are provided for four implementation cost categories. The median value – that is, the value that is in the middle of the set of costs reviewed and approved by the TA – is provided for incumbent licensee and vendor rates associated with each implementation cost category listed.

Table 3 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Median Incumbent Licensee and Vendor Rates (hourly) by Implementation Cost Category

	Engineering	Project Management	Preparation/Planning/ Negotiation	Legal
Median Incumbent Rate	\$55	\$50	\$52	\$117
Median Vendor Rate	\$175	\$175	\$167	\$400

Section III: Distribution of Costs by Category for Incumbent Licensee and Vendor

In the tables below, the distribution of incumbent licensee and vendor costs across implementation cost categories is provided, both as a percentage of the total implementation costs in an FRA and as a percentage of the incumbent licensee's or vendor's total costs. On average, vendors account for roughly 82 percent of total reconfiguration costs, and incumbent licensees account for approximately 18 percent. Overall, approximately 43 percent of reconfiguration labor costs are associated with retuning/reprogramming/replacing subscriber units.

Table 4 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Incumbent Licensee and Vendor Cost Distribution by Implementation Cost Category

Implementation Cost Category	Cost Distribution as a % of Total Implementation Costs in an FRA		Cost distribution for Incumbents and Vendors	
	Incumbent \$s as a % of Total Costs	Vendor \$s as a % of Total Costs	Incumbent \$s as a % of Total Incumbent Costs	Vendor \$s as a % of Total Vendor Costs
Subscriber Reconfiguration	9.4%	32.3%	50.7%	39.6%
Infrastructure Reconfiguration	0.8%	4.3%	4.1%	5.2%
Engineering (Implementation)	1.4%	9.1%	7.7%	11.2%
Project Management	2.8%	11.8%	15.4%	14.4%
Interim/Overlay System Costs	0.3%	1.8%	1.8%	2.2%
Training	0.5%	0.3%	2.7%	0.4%
Performance Tests - Baseline Testing	0.1%	0.9%	0.5%	1.2%
Performance Tests - Acceptance Testing	0.2%	1.3%	1.2%	1.7%
FRA Preparation and Completion (Non-legal)	0.2%	0.5%	1.2%	0.7%
Pre-Implementation Planning	0.3%	0.5%	1.5%	0.7%
Legal	0.3%	2.2%	1.3%	2.6%
Subscriber Travel	0.3%	2.7%	1.7%	3.3%
Infrastructure Travel	0.0%	1.0%	0.2%	1.2%
All Other Travel	0.1%	1.7%	0.6%	2.1%
Contingency	0.3%	0.6%	1.5%	0.7%
Material Expense (Subscriber)	1.4%	6.2%	7.3%	7.6%
Material Expense (Infrastructure)	0.2%	4.4%	1.0%	5.4%
Total	18.5%	81.6%	100.0%	100.0%

Section IV: Per-Unit Costs for Subscriber Equipment Reconfiguration

For each type of subscriber unit identified in the tables below, estimated per-unit reconfiguration costs are available. For the seven ranges of system sizes for each type of subscriber unit, the median value, the 25th percentile, and the 75th percentile are provided. (See Section I for further explanation of medians and percentiles.) Data regarding the following four types of subscriber units are analyzed:

- **Mobiles:** Costs estimated for the reconfiguration of mobile radios (may include estimates for retune and reprogram tasks, installation and de-installation where identified and local travel costs as applicable).
- **Portables:** Costs estimated for the reconfiguration of portable radios (may include estimates for retune and reprogram tasks and local travel as applicable).
- **Mobile Data Devices:** Costs estimated for the reconfiguration of mobile data devices including Vehicle Radio Modems, Mobile Data Terminals, and Mobile Data Workstations (may include estimates for retune and reprogram tasks, installation and de-installation where identified, and local travel costs as applicable).
- **Control Stations:** Costs estimated for the reconfiguration of control station radios (may include estimates for retune and reprogram tasks, installation and de-installation where identified, and local travel costs as applicable).

Table 5 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Subscriber Units - Median Reconfiguration Costs and Cost Ranges by Subscriber Unit Type

NUMBER OF SUBSCRIBER UNITS IN THE SYSTEM	Mobiles			Portables		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
1-500	\$59	\$104	\$239	\$45	\$65	\$85
501-1000	\$75	\$117	\$323	\$55	\$71	\$90
1001-2000	\$89	\$152	\$375	\$54	\$68	\$90
2001-4000	\$75	\$122	\$325	\$53	\$72	\$89
4001-6000	\$88	\$153	\$360	\$50	\$69	\$89
6001-10000	\$100	\$172	\$354	\$65	\$81	\$104
>10000	\$102	\$158	\$351	\$61	\$75	\$91
NUMBER OF SUBSCRIBER UNITS IN THE SYSTEM	Mobile Data Devices			Control Stations		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
1-500	\$40	\$70	\$103	\$60	\$125	\$262
501-1000	\$43	\$109	\$288	\$100	\$210	\$425
1001-2000	\$52	\$88	\$125	\$132	\$347	\$505
2001-4000	\$75	\$93	\$208	\$127	\$245	\$423
4001-6000	\$67	\$114	\$166	\$172	\$310	\$475
6001-10000	\$71	\$95	\$186	\$100	\$201	\$468
>10000	\$65	\$86	\$104	\$140	\$209	\$367

Section V: Costs for Reconfiguration of 800 MHz Infrastructure

Costs for reconfiguring 800 MHz infrastructure are provided in the tables below. The data is presented in subsets based on the number of repeaters. Reconfigurations with 1-5, 6-10, 11-55, 56-145 and greater than 145 repeaters being retuned are analyzed separately.

For each cost category, the median value, the 25th percentile, and the 75th percentile are provided *per reconfiguration*. (See Section I for further explanation of medians and percentiles.) In some cases the median value is zero, meaning that more than half of the licensees in that range either did not estimate costs in that particular category or may have included such estimated costs in another category without clearly identifying them.

The following five infrastructure reconfiguration cost categories are analyzed:

- **Infrastructure Equipment Reconfiguration:** The total cost estimated for the reconfiguration of repeaters and all other fixed infrastructure equipment (may include estimates for retune and reprogram tasks as well as installation and de-installation where required). Includes “touch labor” costs only. Excludes planning tasks and material.
- **Performance Tests – Baseline Testing:** The total reconfiguration cost estimated for pre-reconfiguration baseline performance verification testing. Includes “touch labor” costs and material expense. Excludes planning and project management tasks.
- **Performance Tests – Acceptance Testing:** The total reconfiguration cost estimated for post-reconfiguration acceptance/performance verification testing. Includes “touch labor” costs and material expense. Excludes planning and project management tasks.
- **Infrastructure Retune Travel:** The value of travel costs that can be directly attributed to the retuning of the licensee’s infrastructure equipment. (In some cases local travel costs are not broken out separately and are rolled into the equipment reconfiguration costs.)
- **Material Expense (Infrastructure):** The total cost estimated for Infrastructure related material and equipment including software. Does not include any “touch labor” or Code Plug costs.

Table 6 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Infrastructure - Median Costs and Cost Ranges by Cost Category

NUMBER OF REPEATERS RECONFIGURED	Infrastructure Equipment Reconfiguration					
	25th Percentile	Median	75th Percentile			
1-5	\$900	\$2,130	\$6,788			
6-10	\$5,371	\$12,930	\$22,350			
11-55	\$17,842	\$31,055	\$49,888			
56-145	\$60,312	\$95,011	\$166,360			
>145	\$158,869	\$281,034	\$508,886			
NUMBER OF REPEATERS RECONFIGURED	Performance Tests - Baseline Testing			Performance Tests - Acceptance Testing		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
1-5	\$0	\$0	\$750	\$0	\$0	\$1,294
6-10	\$455	\$1,200	\$2,884	\$1,043	\$2,602	\$5,098
11-55	\$1,298	\$4,356	\$12,715	\$3,485	\$9,951	\$27,008
56-145	\$5,324	\$20,551	\$36,562	\$8,728	\$30,895	\$50,733
>145	\$21,000	\$44,928	\$83,559	\$33,907	\$72,628	\$119,245

NUMBER OF REPEATERS RECONFIGURED	Infrastructure Travel			Material Expense (Infrastructure)		
	25th Percentile	Median	75th Percentile	25th Percentile	Median	75th Percentile
1-5	\$0	\$0	\$1,598	\$0	\$0	\$1,651
6-10	\$0	\$2,061	\$4,686	\$0	\$7,584	\$39,048
11-55	\$222	\$5,695	\$11,961	\$0	\$12,335	\$77,367
56-145	\$4,248	\$16,670	\$36,306	\$1,806	\$53,898	\$155,988
>145	\$17,851	\$41,239	\$85,392	\$27,019	\$129,460	\$317,869

Section VI: Per-Unit Costs for Repeater Reconfiguration

Estimated per-unit reconfiguration costs for repeater base stations are provided in the table below. The costs may include estimates for retune and reprogram tasks along with local travel costs as applicable. The data is presented in subsets based on the number of repeaters. For each range of repeaters, the median value, the 25th percentile, and the 75th percentile are provided. (See Section I for further explanation of medians and percentiles.)

Table 7 - All Public Safety (Stage 2 Only) Frequency Reconfiguration Agreements Repeater Per Unit - Median Reconfiguration Costs and Cost Ranges

NUMBER OF REPEATERS RECONFIGURED	Repeater Per Unit Costs		
	25th Percentile	Median	75th Percentile
1-5	\$237	\$380	\$656
6-10	\$224	\$368	\$792
11-55	\$202	\$360	\$708
56-145	\$228	\$389	\$841
>145	\$190	\$263	\$467