



MEMORANDUM

Date: October 15, 2018

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to read "CHH", is written over the printed name "C.H. Huckelberry".

Re: **Evaluation Regarding Contracting for Pothole Repair in Pima County**

At a recent Board of Supervisors meeting, Supervisor Miller inquired about cost comparisons associated with pothole repair by County crews versus contract crews. The attached memorandum from the Transportation Director Ana Olivares articulates that the County crews can accomplish the same work at approximately one-quarter of the cost. Hence, it is more appropriate to use County staff crews to perform pothole repair. The opposite is true for repaving and reconstruction work, which is always contracted.

This is the same result and cost-analysis that was conducted more than 20 years ago when we studied extensive performance reviews of work tasks associated with highway maintenance and operation and determined the most appropriate division of labor responsibilities between in-house staff and contracted personnel.

The four patch trailers recently approved for purchase by the Board will be followed up with four additional patch trucks to allow County staff pothole repair crews to become much more efficient than they are today.

If you have any questions regarding this analysis, please contact me.

CHH/lab

Attachment

c: Carmine DeBonis, Deputy County Administrator for Public Works
Ana Olivares, Director, Transportation Department

DATE: October 12, 2018

TO: C.H. Huckelberry
County Administrator


FROM: Ana M. Olivares, P.E.
Director

SUBJECT: Evaluation of Outside Contracting for Pothole Repairs in Pima County

The Pima County Department of Transportation (DOT) has approximately 2000 miles of roadways requiring maintenance. Approximately 70 percent of these roadways are in poor or failed condition. In order to keep up with pothole repairs on these roadways, we currently have five hot mix asphalt trucks available for pothole repair work. On an average work day our crews apply 40 tons of hot mix asphalt which represents about 800 pothole repairs depending on size.

Supervisor Ally Miller asked at the October 2, 2018 Board of Supervisors meeting if we could investigate a cost comparison between pothole repairs done by our crews versus contract crews. County Administrator Chuck Huckelberry indicated that many years ago this was studied and it was determined that for larger projects like seal coats and overlays that contractors were more cost effective, but that for pothole repairs it was settled to continue using our crews in order to be able to respond 24 hours a day to repairs.

DOT recently reorganized in order to respond more quickly to customer requests to fill potholes and made a significant effort to reduce the over 800 outstanding service requests for pothole repairs. About the same time as this reorganization, we utilized two different Job Order Contracts (JOC) to assist in reducing the pothole repair backlog over a several week period between May and August of 2018. The average costs for repairs with the JOC crews worked out to \$683 per ton of hot mix placed plus approximately \$15-20 per ton for oversight of the work (one supervisor for two JOC crews). Costs for our own operations staff to make pothole repairs with hot mix over the last year has averaged \$200 per ton. While JOC crews look like a useful option to help reduce our response time where we have a peak in backlog it is clearly not more cost effective over longer periods when resources are fully available.

Since our refocusing on potholes we have reduced the number of outstanding pothole service requests to a steady and manageable pace of that fluctuates between 50 to 75 potholes from our over 800 when we initiated this effort. With this effort we also achieved a significant reduction in our average service request aging and response time. Use of JOC contracting was a helpful tool in the effort and was done specifically to compare the efficiency and cost of these JOC crews to in house pothole repairs.

In conclusion, it was determined that pothole repairs by our crews are preferred from a cost standpoint, but we still recommend use of JOC contracts for specific times of need. DOT will continue to evaluate our productivity as well as the durability of various repair and contracting methods to strike a balance between the tools and resources we have available in order to provide the best level of service possible.

Please let us know if you have any questions or need additional information.

AMO:JC:dg

Attachments

c: Carmine DeBonis, Jr., Deputy County Administrator
Ana Olivares, Director
Yves Khawam, Chief Deputy Director

Months	Work Units	Crew Labor Ho	Tonnage	Total Cost	Cost per Unit
May	Tons	214.00	84.34	\$58,595.89	\$694.76
Jun	Tons	300.00	116.51	\$82,190.47	\$705.44
Jul	Tons	192.00	79.94	\$51,851.26	\$648.63
Aug	Tons	13.00	6.06	\$3,362.38	\$554.85
Grand Total		719.00	286.85	\$196,000.00	\$683.28

Classification	Class Description	Work Description	Work Units Measure	Total Work Accomplished	Total Cost	Total Labor Hours	Cost per Unit
TRADMT	Administrative	Ajo - Tucson Visits	Labor Hours	241.33	\$9,350.72	181.33	\$38.75
TRAJAP	Ajo Airport	Ajo Airport	Labor Hours	210.00	\$9,057.38	210.00	\$43.13
TRCEIM	Cattleguard Maint/Installation/Repair	Cattleguard Maint/Installation/Repair	Grills	69.00	\$39,691.61	762.00	\$575.24
TRCHPP	CHH Pothole Patching	Chip Patching prior to spray injection units	Tons	419.00	\$159,323.22	2,930.00	\$380.25
TRCKSL	Cracksealing	Cracksealing	Pounds	208,030.00	\$262,813.81	4,532.50	\$1.26
TRCMPP	Cold Mix, Pothole Patching	Cold Mix Patching	Tons	1,962.91	\$930,529.40	16,887.98	\$474.06
TRFLMI	Roadway Surface Maintenance - Storms	Storm Response	Labor Hours	22,085.73	\$1,879,648.26	22,485.73	\$85.11
TRGRMT	Guardrail Maintenance	Guardrail Maintenance	Linear Feet	2,135.50	\$67,262.25	122.00	\$31.50
TRIRRG	Irrigation systems on roadways	Landscape Maintenance	Labor Hours	725.00	\$23,218.08	0.00	\$32.02
TRLDSM	Constructed Landscape Maintenance	Landscape Maintenance	Labor Hours	17,102.00	\$473,569.40	0.00	\$27.69
TRMBET	Betterment	Betterment	Labor Hours	4,186.85	\$280,243.77	4,216.85	\$66.93
TRMFMA	Manufacturing Material	Manufacturing/Stockpiling Materials	Cubic Yards	2,759.80	\$26,967.47	366.00	\$9.77
TRMOWR	Roadside Mowing	Vegetation	Acres	325.21	\$18,654.94	0.00	\$57.36
TRMPEF	Emergency Response	Emergency Response	Labor Hours	1,576.75	\$135,928.22	1,593.75	\$86.21
TRMTLM	Mt. Lemmon Maintenance	Mt. Lemmon Maintenance	Labor Hours	2,659.40	\$158,521.40	2,664.90	\$59.61
TRMWCT	Vegetation Management (Manual)	Vegetation	Acres	366.05	\$681,692.60	2,293.15	\$1,862.29
TROPWS	Operations Warehouse, Support	Warehouse Support	Labor Hours	380.00	\$14,661.21	380.00	\$38.58
TRPRBS	Shoulder Blading, Paved Roads	Shoulder Blading, Paved Roads	Shoulder Miles	74.55	\$87,453.26	1,212.50	\$1,173.08
TRPRCS	Chip Seal Repair Patching	Chip Seal Repair Patching	Square Yards	9.30	\$4,020.28	80.00	\$432.29
TRPRMP	Pothole Patching	Hot Mix Patching	Tons	8,844.43	\$1,772,730.43	25,236.50	\$200.43
TRPRSK	Skin Patching	Patching	Tons	4,511.62	\$520,509.47	4,376.75	\$115.37
TRPRSR	Shoulder Repair, Paved Road	Shoulder Repair	Cubic Yards	2,155.00	\$95,485.11	1,330.00	\$44.31
TRPSSI	Snow / Ice Operations	Snow / Ice Operations	Labor Hours	761.00	\$53,412.14	740.50	\$70.19
TRRDGR	Roadway Grading	Grading	Road Miles	102.06	\$202,677.43	2,268.17	\$1,985.87
TRRFMT	Fence Inspection/Maintenance	Fence Inspection/Maintenance	Linear Feet	61.00	\$1,784.84	30.00	\$29.26
TRRMSM	Structure Maintenance	Structure Maintenance	Labor Hours	277.00	\$14,054.67	292.00	\$50.74
TRRWBI	Rail and Wire Basket Installation	Rail and Wire Basket Installation	Linear Feet	73.00	\$43,775.53	543.00	\$599.66
TRSPRA	Spray Medians and Shoulders	Vegetation	Labor Hours	2,758.50	\$150,493.63	0.00	\$54.56
TRSTMA	Stockpiling Material	Manufacturing/Stockpiling Materials	Cubic Yards	25,786.52	\$357,206.28	3,658.00	\$13.85
TRSTSD	Street Sweeping	Street Sweeping	Pass Miles	1,342.15	\$145,739.43	1,921.00	\$108.59
TRSWCR	Sidewalk and Curb Repair	Sidewalk and Curb Repair	Linear Feet	1,704.50	\$63,316.31	1,481.80	\$37.15
TRTREQ	Transporting Equipment	Transporting Equipment	Miles	13,122.60	\$57,226.71	766.57	\$4.36
TRTRNG	Training	Training	Labor Hours	2,039.00	\$89,025.93	2,071.00	\$43.66
TRUPRG	Unpaved Roadway Grading	Grading	Road Miles	1,156.29	\$1,602,610.71	16,447.47	\$1,385.99
TRWFOD	Work For Other Departments	Work For Other Departments	Labor Hours	595.00	\$40,585.97	594.00	\$68.21
HY DMBM	Drainage Maintenance Betterment	Drainage Maintenance (Revenue)	Labor Hours	548.60	\$40,901.05	532.77	\$74.56