PAVEMENT ANALYSIS SERVICES
REQUEST FOR SERVICES
ATTACHMENT A

	Description:	Unit	Unit Base Cost $	MAXIMUM PRICE PER TIERED GROUP			Total Units	Agreed Upon Cost ($)/Unit	Total Agreed Upon Cost ($)
				Unit Cost ($) 0-200 Lane Miles	Unit Cost ($) 201-700 Lane Miles	Unit Cost ($) 701+ Lane Miles			
1	Automatically and continuously measure pavement cracking, texture, rutting, width, and pavement type	Lane Mile[1]		$55	$50	$45	256	50	12800
2	Collect pavement surface distress through automated means	Lane Mile[1]		$35	$35	$35	256	35	8960
3	Provide a digital condition rating system to collect user defined severity/extent based pavement distresses and pertinent roadway attributes to accommodate a standardized approach to collecting data	Lump Sum	$1,500				1	1500	1500
4	Collect dual-wheel path roughness data to International Roughness Index standards	Lane Mile[1]		$5	$5	$5	256	5	1280
5	Roadway information that shall be collected and provided to the Participant at a minimum includes items a. through i. in Roadway information[3]	Lane Mile[1]		$10	$10	$10	256	10	2560
6	Collect digital images at 25-foot intervals of the road surface condition and link to a geodatabase (minimum forward facing imagery)	Lane Mile[1]		$5	$5	$5	256	5	1280
7	Collect sidewalk data to include location, length, width and condition and create shape (.shp) files for incorporation into the Participant's GIS system, if applicable	Lane Mile[1]		$15	$15	$15	256	15	3840
8	Collect sidewalk ADA ramp data to include location, configuration, presence of truncated domes or other detectable warning feature, and condition and create shape (.shp) files for incorporation into the Participant's GIS system, if applicable.	Each	0.5				2048	.5	1024
9	Collect roadway sign data to include type and location and create shape (.shp) files for incorporation into the Participant's GIS system, if applicable	Each	0.5				12800	.5	6400
10	Collect photos of ADA ramps, sidewalks, and/or roadway signs inventoried under items 7, 8, and 9 above.	Each	1				14848	1	14848

#	Description	Unit	Base Cost						
11	Collect location of curb and gutter and create shape (.shp) files for incorporation into the Participant's GIS system, if applicable	Linear Feet	0.005		2,703,360			.005	13,517
12	Collect location and type of visible in-pavement features such as valves, manhole covers, etc. and create shape (.shp) files for incorporation into the Participant's GIS system, if applicable	Each	1				0	1	0
13	Load assessment data for all Participant-maintained pavements into a pavement management software system required by local government Participant(s), if applicable. Cost includes base cost plus lane mile unit cost.	Each Participant	$3,500	$2	$2	$2	256	2	4012
14	Implement map module so that pavement condition and other data can be integrated, displayed, and accessed through the map interface in a format consistent with the Participant's horizontal and vertical control network system, if applicable. Cost includes base cost plus lane mile unit cost.	Each Participant	$3,000	$2	$2	$2	256	2	3512
15	Provide to the Participant the pavement condition data in a pavement management system database approved by Participant. Coordinate with the Participant's IT department to provide pavement condition data in a format compatible with the Participant's Environmental Systems Research Institute (ESRI) GIS database, if applicable. Cost includes base cost plus lane mile unit cost.	Each Participant	$3,000	$2	$2	$2	256	2	3512
16	Calculate a Pavement Condition Index (PCI) score for each road segment using an approved pavement management system and in accordance with ASTM D6433. Provide results compatible with the Participant's GIS database, if applicable	Lane Mile[1]		$10	$7	$5	256	7	1792
17	Calculate the International Roughness Index for each road segment in accordance with ASTM E1926. Provide results compatible with the Participant's GIS database, if applicable	Lane Mile[1]		$3	$3	$3	256	3	768
18	With input from Participant's staff, devise a weighing system taking into account PCI, IRI, average daily traffic for thoroughfares (traffic count raw data provided by Participant), and public safety emergency routes; and apply this 0-100 numeric index to the roadway information collected for the entire jurisdiction. Cost includes base cost plus lane mile unit cost.	Lane Mile[1]	$3,500	$5	$5	$5	256	5	4780
19	Estimate the annual budget required to meet the long term goals regarding desired pavement condition levels. Cost includes base cost plus lane mile unit cost.	Each Participant	$5,000	$5	$5	$5	256	5	6280
20	Create a five year and ten year pavement rehabilitation plan with input from Participant's staff. Cost includes base cost plus lane mile unit cost.	Each Participant	$5,000	$5	$5	$5	256	5	6280
21	Recommend the computer hardware and software needed for successful implementation, potentially including recommendations for licenses of pavement management system software and other geodatabase software as needed.	Each Participant	$3,000				0	0	0

22	Train Participant staff and provide assistance to the Public Works and IT Department as needed for the use of data collected through the fully automated system (20 person maximum per class)	Day	$2,000		3	2000	6000
23	Collect and analyze pavement structural condition information through the use of a falling weight deflectometer in accordance with industry standards on designated participant-owned roadways	**			0	0	0
24	Collect and analyze pavement structural condition information through the use of Ground Penetrating Radar (GPR) in accordance with industry standards on designated participant-owned roadways	**			0	0	0
25	Collect and analyze pavement structural condition information through the use of pavement cores in accordance with industry standards on designated participant-owned roadways (traffic control included)[2]	**			0	0	0
	SUBTOTAL						104,945
26	Additional miscellaneous services, selected by Participant, not to exceed 15% of total bid. (Enter total amount here. Services are to be detailed on a separate page.)						0
	TOTAL						104,945

[1]Lane mile is to be defined as a mile traveled as
    1. A single pass on *alleyways*
    2. A centered single pass on *residential streets*
    3. Includes the outside lane in each direction for *collectors and arterials* (2 total).

[2]Spacing for pavement cores to be negotiated with each participant.

[3]Roadway information that shall be collected and provided to the Participant at a minimum includes:
a. Street Name
b. Endpoint One, Endpoint Two, and Segment ID
c. Segment Length and Pavement Width
d. Inventory Date
e. Pavement Type
 f. Segment Functional Classification
g. Pavement condition scored depending on the requirements of local government Participant(s)
  (Example: Pavement condition scored as one of the MicroPaver 19 surface distress codes with corresponding unit of measure scored
  every 100 feet longitudinally)
h. Pavement performance information that includes rutting using a minimum of seven (7) sensors
  (include pricing for nine (9) sensors as well), fatigue cracking, transverse cracking using a minimum of four sensors, and longitudinal
  cracking
i. Pavement age (if necessary to develop pavement life curves)

**Services to be negotiated with each community when requested. These items may require the service of an engineer, either provided by the client or contracted by the vendor.

Fugro Roadware Inc.

Signature: *Nima Kargah-Ostadi*

Names: Nima Kargah-Ostadi

Title: Pavement Engineering Manager

Date: 12/01/2017

Participant

Signature: _____

Name: _____

Title: _____

Date: _____