Store	category	Part	PN	cost (each)	qty needed	subtotal
		Off-The Shelf: Hardware				
amazon	chassis	Wheel + 2 bearings + 1 spacer, kit (for drivetrain)	B01KH4R6VE	$6.00	2	$12.00
amazon	chassis	Bracket - 90deg aluminum, (for chassis) - includes 2 screw tabs each	B07BQR7WX8	$2.50	4	$9.99
Mcmaster	chassis	Timing Belt, Dust-Free, T5 Series, Trade No. T5-245-10 (for drivetrain)	1679K451	$4.18	2	$8.36
Mcmaster	chassis	Hex Nut, M8 (for axle)	90591A161	$0.05	2	$0.10
Mcmaster	chassis	T-slot Framing - 30mm x 1ft (for chassis)	5537T97	$5.84	4	$23.36
amazon	chassis	Caster wheels (for front)	B01J4FED5E	$1.92	2	$3.83
Mcmaster	chassis	Screws - M8x110mm screw (axles)	91290A470	$1.16	2	$2.32
Mcmaster	chassis	Screws, M6 x 14mm (for motor plates)	91239A319	$0.10	8	$0.82
Mcmaster	chassis	Screws - M6 x 10mm (for casters & chassis brackets)	91239A316	$0.10	12	$1.25
McMaster	chassis	Screw, set screw, M5x0.6 (for motor pulley)	91390A118	0.04	2	$0.08
Mcmaster	chassis	Screw, Flat head, M3x10mm (for motors 6)	92010A120	$0.04	6	$0.27
amazon	chassis	Screw, self-tapping, M2 x 6mm, for plastic (for encdr brkt 4, ultrsnc brkt 4)	B00GMQDSRI	0.01	8	$0.07
Mcmaster	chassis	Screw, M2.5x10mm countersunk (for battery case)	92010A020	0.04	6	$0.23
Mcmaster	chassis	Screw, M2.5x6mm pan head (for motor driver mount 2, bbb lid 1)	92005A066	0.04	3	$0.13
amazon	chassis	Nut, M6 nickel-plated steel for 3030 T-slot extrusion	B077Z2HX42	$0.20	12	$2.40
Mcmaster	chassis	Washer, lock washer for M8 bolt (for axles)	92148A200	0.07	2	$0.15
Mcmaster	chassis	Washer, flat washer for M8 Bolt (for axles)	93475A270	0.08	2	$0.16
Mcmaster	chassis	Washer, 6x12mm	93475A250	0.05	8	$0.39
Mcmaster	chassis	Tubing, 1/2 in OD, 6063, aluminum, sold 8ft section, price per ft	1658T33	2.57	1.6	$4.11
Mcmaster	chassis	Threaded insert, M2.5 x 3.4 heat set (btry 2, whlplts 4, bbb brkt 1, m.driver 2)	94180A321	0.10	9	$0.93
					Subtotal	$70.95
		Off-The Shelf: Electronics				
mouser	MPU	BeagleBone Blue	95Y0640	82.00	1	$82.00
amazon	actuator	Motor Driver Board with Twin H-Bridges (HW-231 model)	B07KGBJGCW	13.99	1	$13.99
amazon	actuator	Motor, DC 12v with 200 rpm gearbox (for drivetrain)	B072R5QSRG	14.99	2	$29.98
amazon	Sensors	Camera, Microsoft HD 3000	B008ZVRAQS	23.99	1	$23.99
amazon	Sensors	Ultrasonic distance sensor	B06XBV54WF	1.599	1	$1.60
amazon	power	Battery cell, Panasonic 18650 or other brand	B00GS48XRE	7.48	3	$22.45
mouser	Sensors	Encoder circuit boards - AMS	990600491	15.75	2	$31.50
powerwerx	connectors	Anderson PowerPole Connectors, 30amp	WP30-100	1.15	8	$9.24
digikey	power	Battery Case, 3 cell li-ion (BK-18650-PC6 on digikey)	BK-18650-PC6	2.00	1	$2.00
mouser	power	Switches - rocker, SPST 10A BLK ON-OFF Symbols (for battery case)	SRB22A2FBBNN	0.95	1	$0.95
amazon	power	Terminals - 22-16 AWG Insulated Female Quick Connect Terminal	B06XCWFTJ9	0.13	2	$0.26
amazon	power	Power Wire - 18 AWG (black/red pair), price listed per meter	B07428NBCW	0.69	1	$0.69
amazon	Wiring BBB	Connector - JST SH 1.0mm 4-Pin with 100mm cable (for ultrasonic, encoders)	B01DUC1M2O	0.40	2	$0.80
amazon	Wiring BBB	Connector - JST ZH 1.5mm 2 pin (for motor driver)	B074CFF5MT	0.27	2	$0.53
amazon	Wiring BBB	Connector - JST SH 1.0mm 6-pin with 100mm cable (for ultrasonic sensor)	B0762K143K	0.73	1	$0.73
amazon	Wiring BBB	Connector - barrell, 5.5x2.1mm, power (for beaglebone)	B076JCNFMP	0.50	1	$0.50
					Subtotal	$221.20
		Fabricate				
McMaster	mill	Wheel Plate 1 (for motor and axle), from 6.35mm aluminum bar	8975K514	3.53	2	$7.06
Amazon	laser cut	Wheel Plate 2 (for axle), from 6.36mm acrylic (material cost shown)	B00844SOSE	0.62	2	$1.24
Amazon	3D Print	ABS 3D PRINTING MATERIAL (price per kg listed)	B07D6BG8FR	18.99	0.424	$8.06
					Subtotal	$16.36
		3D Print (mass in g listed in price column @ 45% infill)				
CAD Model	3D Print	Bracket, Battery (127x65x32)	3D Print	61.3	1	61
CAD Model	3D Print	Lid, Battery Bracket (119 x 65 x 32)	3D Print	44.0	1	44
CAD Model	3D Print	Bracket, Camera (53 x 54 x 26)	3D Print	15.4	1	15
CAD Model	3D Print	Bracket, Encoder (26 x 47 x 31)	3D Print	9.9	2	20
CAD Model	3D Print	Bracket, Compass	3D Print	5.5	1	6
CAD Model	3D Print	Pulley, wheel (designated 3d printed part) (48 x 51 x 51)	3D Print	23.2	2	46
CAD Model	3D Print	Spacer, wheel	3D Print	3.9	2	8
CAD Model	3D Print	Spacer, wheel plate	3D Print	4.0	2	8
CAD Model	3D Print	Pulley, motor (alternative to aluminum part) (15x28x28)	3D Print	5.2	2	10
CAD Model	3D Print	Bracket, Beaglebone (122 x 31 x 62)	3D Print	52.5	1	53
CAD Model	3D Print	Lid, beaglebone bracket (105 x 21 x 59)	3D Print	22.7	1	23
CAD Model	3D Print	Bracket, Universal Dovetail (prints with supports)	3D Print	8.0	3	24
CAD Model	3D Print	Bracket, Rail-holding (prints with supports) (40 x 31 x 22)	3D Print	11.9	4	48
CAD Model	3D Print	Bracket, Motor Driver PCB (122 x 18 x 48)	3D Print	27.6	1	28
CAD Model	3D Print	Bracket, Ultrasonic Sensor	3D Print	31.3	1	31
					Grand Total	**$308.51**
		Extras				
amazon	off-the-shelf	EasySMX 2.4GHz Game Pad Controller, with USB dongle	B01KV7B2CG	25.99	1	
electronics	amazon	audio driver adapter	B07L56C28R	10.99		
electronics	amazon	pyle speaker	B000MCGF1O			
electronics	amazon	game controller - easySMX	B07F1NLGW2			
electronics	omationdirect.c	lidar power cable	7000-12241-2150300			
hardware	amazon	20 tooth timing belt pulley - for crane build	B019GICCMA			
electronics	amazon	2s liPo battery (to offer servos on beagle), 400mAh	B072BH1XP6	8.50		
hardware	amazon	m6 tslot nuts (rotating)	b077z2hx42			
sensors	SICK USA	tiM561 LIDAR unit				
Mcmaster	chassis	Pulley - T5,28mm OD, for motor (upgrade from plastic - for drivetrain)	1428N23	$9.46	2	$18.92
digilent	Sensors	Compass Sensor - PMOD CMPS2 (beagleboard has a compass built-in)	410-355	7.99	1	$7.99