

# DIY Segway - Bill of Materials

Rev. 1.0, 8/23/2007

Does not include fasteners/hardware, wire and connectors, etc. Just too much to keep track of and most of it we just had lying around the shop. Shaded items are items we either obtained for free or already had on hand.

QTY	Desc.	Vendor	Part No.	Unit Price	Cost
<i>BASE, HANDLEBAR, AND BRACKET MATERIAL</i>					
1	24"x24"x1/4" 6061 Al	McMaster-Carr (alt: Big Blue Saw)	89155K26 submit DXF	\$139 ?	\$139 ?
2	1"x1"x1/8"x36" 6061 Al box extrusion	McMaster-Carr	6546K213	\$15	\$30
1	12"x2"x3/8" precision- ground 6061 Al (for bearing risers)	McMaster-Carr	9057K22	\$37	\$37
1	1"x2"x4' 80/20 Aluminum Extrusion	McMaster-Carr	47065T124	\$19	\$19
<i>DRIVE TRAIN</i>					
2	1/2" to 5/8" Rigid Shaft Coupling	McMaster-Carr	61005K533	\$32	\$64
2	5/8" Mounted Bearings	McMaster-Carr	5913K42	\$11	\$22
1	5/8" Keyed Steel Shaft	McMaster-Carr	1497K141	\$19	\$19
2	CIM Motor	BaneBots	M4-R0062-12	\$28	\$56
2	56mm Planetary Gearbox	BaneBots	GP-56012	\$90	\$180
2	16:1 Gear Change Kit	BaneBots	GP-56004-GCK	\$20	\$40
2	Skyway 12.5" Tuffwheel	Skyway		N/A <sup>1</sup>	N/A
<i>ELECTRONICS</i>					
2	Victor 884 Speed Controller	IFI Robotics	VICTOR-884-12-12	\$115	\$230
2	Analog Devices iMEMS 2- axis Accelerometer	Digi-Key	ADXL203EB-ND	\$36	\$72
1	Analog Devices iMEMS Rate Sensor	Digi-Key	ADXRS401EB-ND	\$56	\$56
1	PIC 16F877 Microcontroller	Machine Science		\$10	\$10
1	MaxStream XBee-PRO Digital Radio	Digi-Key	XBP24-AWI-001-ND	\$32	\$32
1	Controller PCB	Advanced Circuits		\$33	\$33
1	Magnetic Card Reader	All Electronics	MCR-12	\$4	\$4
1	1A Thermal Polyswitch	All Electronics	RXE-065	< \$1	< \$1
1	12V SLA "motorcycle" battery	MK Battery		N/A	N/A
1	"Maxi" Fuse Block			N/A	N/A

It's too hard to add up the total cost. Straight from what's listed above, it is just over \$1,000. That does not include fasteners, wire, connectors, etc., which would add a bit to the cost. However, we got a lot of stuff for free or had it lying around from FIRST (including the shaded items on the list), so we actually spent much less than \$1,000.

If you're attempting a project like this, chances are you are the type to also have some stuff lying around that could be useful. So in all, a reasonable estimate for the project cost is \$1,000.

---

<sup>1</sup> FIRST discount pricing, exact cost not published