Urban Traffic Arterials

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True Costs?

Table 1: Capital Cost

		Soft Cost					Construction Cost			Total Capital Cost[1]
		EIS / EIR	Design Fee	Right of Way	Productivity Loss	Construction Management	Traffic Relocation & Maintenance	Utility Relocation & Support	Structures	
Weighted %	**Average**	**4.5**	**13.5**	**11.5**	**3.5**	**13.5**	**16.5**	**11.5**	**25.0**	**100**
	Range	3 - 6	12 - 15	8 - 15	2 - 5	12 - 15	8 - 25	8 - 15	15 - 35	
At Grade = Baseline 		**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1.0**
Elevated Structure / Viaduct Bridge 		**1.4**	**1.4**	**1.8**	**1**	**2**	**1**	**1.2**	**7**	**2.8**
Tunnel Cut &Cover 		**1.4**	**1.6**	**1**	**1.5**	**1.6**	**1.5**	**2**	**10**	**3.7**
Tunnel Mined  NATM  TBM		**0.3**	**1.4**	**0.3**	**0.3**	**0.7**	**0.3**	**0.3**	**11**	**3.2**

Notes:

(1) Refer to Table 2 for Life Time Costs (Environmental Pollution, Property Tax, Maintenance Costs, Social Divide, Life Time Factor).

Based on International Experience in Urban Areas

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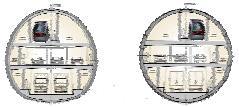
True Costs?

Table 2: Annual Cost

Life Span in Years	Capital Cost per Annum (1)(2)			Annual Costs				
	Life Span Relation	Construction Phase Cost	Total	Environ-mental Pollution	Loss of Property Taxes	Social Divide	Maintenance Cost	Total
	-	-	100	Weighted % Average 25	25	15	35	100
				Range 20 - 30	20 - 30	10 - 20	30 - 40	
100	1	1	1	At Grade = Baseline 	1	1	1	1	1
50	2	2.8	5.7	Elevated Structure / Viaduct Bridge 	1.2	1	0.8	2	1.4
100	1	3.7	3.7	Tunnel Cut &Cover 	0.05	0.2	0	1.3	0.5
150	0.66	3.2	2.1	Tunnel Mined  NATM TBM	0.05	0.2	0	1.1	0.4

Notes:
(1) Refer to Table 1
(2) Interest not included

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