

Central Omaha Transit Alternatives Analysis (AA)
Capital Cost Estimate (All Costs Shown in Thousands)

SCC	Item	Unit Cost (2013)	Unit	Contingency	Alternative 1		Alternative 2		Alternative 2A		Alternative 3		Alternative 3A		
					Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	
10	GUIDEWAY & TRACK ELEMENTS					\$ 2,880	\$ 2,880	\$ 2,880	\$ 5,580	\$ 21,158	\$ 20,698				
10.02	Guideway: At-grade semi-exclusive (BRT)	\$ 2,000	Per mile	20%	0.00	\$ -	0.00	\$ -	1.50	\$ 3,600	0.00	\$ -	0.00	\$ -	
10.02	Guideway: At-grade semi-exclusive (Streetcar)	\$ 2,000	Per mile	20%	0.00	\$ -	0.00	\$ -	0.00	\$ -	0.00	\$ -	1.50	\$ 3,600	
10.03	Guideway: At-grade mixed traffic (BRT)	\$ 75	Per stop	20%	32	\$ 2,880	32	\$ 2,880	22	\$ 1,980	0	\$ -	0	\$ -	
10.03	Guideway: At-grade mixed traffic (Streetcar)	\$ 2,000	Per mile	20%	0.00	\$ -	0.00	\$ -	0.00	\$ -	6.68	\$ 16,032	5.02	\$ 12,048	
10.10	Track: Embedded	\$ 400	Per mile	20%	0	\$ -	0	\$ -	0	\$ -	6.68	\$ 3,206	6.52	\$ 3,130	
10.12	Track: Special (switches, turnouts)	\$ 200	Per switch, turnout	20%	0	\$ -	0	\$ -	0	\$ -	8	\$ 1,920	8	\$ 1,920	
20	STATIONS, STOPS, TERMINALS, INTERMODAL					\$ 12,840	\$ 12,840	\$ 12,840	\$ 11,520	\$ 11,520					
20.01	At-grade stop: Large	\$ 400	Per stop	20%	18	\$ 8,640	18	\$ 8,640	18	\$ 8,640	14	\$ 6,720	14	\$ 6,720	
20.01	At-grade stop: Small	\$ 250	Per stop	20%	14	\$ 4,200	14	\$ 4,200	14	\$ 4,200	16	\$ 4,800	16	\$ 4,800	
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS					\$ -	\$ -	\$ -	\$ 10,800	\$ 10,800					
30.02	Light maintenance facility and yard track	\$ 1,500	Per streetcar	20%	0	\$ -	0	\$ -	0	\$ -	5	\$ 9,000	5	\$ 9,000	
30.02	Share of existing maintenance facility	\$ 200	Per bus	10%	0	\$ -	0	\$ -	0	\$ -	0	\$ -	0	\$ -	
30.05	Lead track	\$ 1,500	Lump sum	20%	0	\$ -	0	\$ -	0	\$ -	1	\$ 1,800	1	\$ 1,800	
40	SITework & SPECIAL CONDITIONS					\$ 323	\$ 338	\$ 334	\$ 10,872	\$ 10,611					
40.01	Demolition, clearing, earthwork	\$ 250	Per mile	20%	0	\$ -	0	\$ -	0	\$ -	6.68	\$ 2,004	6.52	\$ 1,956	
40.02	Site utilities, utility relocation	\$ 1,000	Per mile	30%	0	\$ -	0	\$ -	0	\$ -	6.68	\$ 8,684	6.52	\$ 8,476	
40.06	Pedestrian/bike access and accommodation, landscaping	\$ 25	Per mile	10%	11.74	\$ 323	12.30	\$ 338	12.14	\$ 334	6.68	\$ 184	6.52	\$ 179	
50	SYSTEMS					\$ 2,809	\$ 2,953	\$ 3,766	\$ 23,059	\$ 23,556					
50.01	Train control and signals	\$ 150	Per mile	20%	0	\$ -	0	\$ -	0	\$ -	6.68	\$ 1,202	6.52	\$ 1,174	
50.01	Automatic train protection at freight railroad spur line crossing	\$ 2,000	Lump sum	30%	0	\$ -	0	\$ -	0	\$ -	1	\$ 2,600	1	\$ 2,600	
50.02	Traffic signals: Full replacement	\$ 150	Per intersection	20%	0	\$ -	0	\$ -	3	\$ 540	1	\$ 180	4	\$ 720	
50.02	Traffic signals: Major modifications	\$ 50	Per intersection	20%	0	\$ -	1	\$ 60	10	\$ 600	1	\$ 60	10	\$ 600	
50.02	Traffic signals: Minor modifications	\$ 15	Per intersection	20%	3	\$ 54	4	\$ 72	2	\$ 36	4	\$ 72	2	\$ 36	
50.02	Traffic signal priority	\$ 30	Per intersection	10%	23	\$ 759	25	\$ 825	18	\$ 594	21	\$ 693	14	\$ 462	
50.03	Traction power supply: Substations	\$ 900	Per substation	20%	0	\$ -	0	\$ -	0	\$ -	4	\$ 4,320	4	\$ 4,320	
50.04	Traction power distribution: Poles and catenary	\$ 1,500	Per mile	20%	0	\$ -	0	\$ -	0	\$ -	6.68	\$ 12,024	6.52	\$ 11,736	
50.05	Communications	\$ 50	Lump sum	20%	1	\$ 60	1	\$ 60	1	\$ 60	1	\$ 60	1	\$ 60	
50.06	Fare collection system and equipment	\$ 40	Per unit	10%	44	\$ 1,936	44	\$ 1,936	44	\$ 1,936	42	\$ 1,848	42	\$ 1,848	
CONSTRUCTION SUBTOTAL (10-50)						\$ 18,852	\$ 19,011	\$ 22,520	\$ 77,410	\$ 77,185					
60	RIGHT-OF-WAY, LAND, EXISTING IMPROVEMENTS					\$ -	\$ 300	\$ 600	\$ 900	\$ 1,500					
60.01	Purchase or lease of real estate: Curb cuts and substations	\$ 50	Each	20%	0	\$ -	5	\$ 300	10	\$ 600	15	\$ 900	25	\$ 1,500	
70	VEHICLES					\$ 8,800	\$ 8,800	\$ 8,800	\$ 27,000	\$ 27,000					
70.04	Bus (Articulated)	\$ 1,000	Per bus	10%	8	\$ 8,800	8	\$ 8,800	8	\$ 8,800	0	\$ -	0	\$ -	
70.05	Streetcar (Modern)	\$ 4,500	Per streetcar	20%	0	\$ -	0	\$ -	0	\$ -	5	\$ 27,000	5	\$ 27,000	
80	PROFESSIONAL SERVICES					\$ 5,656	\$ 5,703	\$ 6,756	\$ 23,223	\$ 23,155					
80.01	Preliminary engineering	3%	Lump sum			\$ 566	\$ 570	\$ 676	\$ 2,322	\$ 2,316					
80.02	Final design	8%	Lump sum			\$ 1,508	\$ 1,521	\$ 1,802	\$ 6,193	\$ 6,175					
80.03	Program management for design and construction	6%	Lump sum			\$ 1,131	\$ 1,141	\$ 1,351	\$ 4,645	\$ 4,631					
80.04	Construction administration and management	6%	Lump sum			\$ 1,131	\$ 1,141	\$ 1,351	\$ 4,645	\$ 4,631					
80.05	Professional liability	3%	Lump sum			\$ 566	\$ 570	\$ 676	\$ 2,322	\$ 2,316					
80.06	Legal, permits, review fees	1%	Lump sum			\$ 189	\$ 190	\$ 225	\$ 774	\$ 772					
80.07	Survey, testing, investigation, inspection	1%	Lump sum			\$ 189	\$ 190	\$ 225	\$ 774	\$ 772					
80.08	Start up	2%	Lump sum			\$ 377	\$ 380	\$ 450	\$ 1,548	\$ 1,544					
SUBTOTAL (10-80)						\$ 33,307	\$ 33,815	\$ 38,676	\$ 128,532	\$ 128,840					
90	PROJECT RESERVE (UNALLOCATED CONTINGENCY)					\$ 3,331	\$ 3,381	\$ 3,868	\$ 12,853	\$ 12,884					
SUBTOTAL (10-90)						\$ 36,638	\$ 37,196	\$ 42,543	\$ 141,386	\$ 141,724					
100	FINANCE CHARGES														
TOTAL (10-100)						\$ 36,638	\$ 37,196	\$ 42,543	\$ 141,386	\$ 141,724					
COST PER MILE						5.87	\$ 6,242	6.15	\$ 6,048	5.99	\$ 7,102	3.34	\$ 42,331	3.18	\$ 44,567

Assumptions (by line item)

Farnam contraflow BRT guideway 31st-10th St
Farnam contraflow Streetcar guideway 31st-10th St
Concrete pad at BRT stops
Streetcar guideway cost does not include track
Does not specify rail type
2 end of line, 2 MSF, 4 misc

See stop hierarchy tab
See stop hierarchy tab

All inclusive within MSF site
Share of existing Metro facility
MSF site location TBD

Does not include in-kind contributions

See traffic signal tab
See traffic signal tab
See traffic signal tab
See traffic signal priority tab
Minimum 1 substation per mile

See Fare Collection tab

Assumes no ROW needed for MSF

Articulated bus
Modern streetcar

General Assumptions

Distances do not distinguish between route mile and track mile
Distances used are the same as the O&M cost estimate
Assumes cost for two-way conversion of Farnam St between 42nd and 36th St is paid for by others
Assumes maintenance and storage facility location to be determined in Phase 2

Stop Hierarchy

Stop	Alt 1	Alt 2	Alt 3
	BRT	BRT	Streetcar
72nd/Dodge	L	L	n/a
62nd/Dodge	L	L	n/a
50th/Dodge	S	S	n/a
42nd/Farnam	L	L	L
40th/Farnam	n/a	n/a	S
36th/Farnam	S	S	S
33rd/Farnam	L	L	L
31st/Farnam	L	L	L
26th/Farnam/Harney	n/a	n/a	S
24th/Farnam/Harney	S	S	S
20th/Farnam/Harney	S	S	S
16th/Farnam/Harney	L	L	L
13th/Farnam/Harney	L	L	L
11th/Farnam/Harney	S	S	S
Capitol/10th	S	S	S
Cass/10th	L	L	L
12th Fahey	L	L	L
16th Fahey	S	S	S

L = Large
S = Small

Traffic Signals

Intersection	Alt 1	Alt 2	Alt 2A	Alt 3	Alt 3A
	BRT	BRT	BRT CF	Streetcar	Streetcar CF
72nd/Dodge					
62nd/Dodge					
Farnam/Happy Hollow/Dodge					
50th/Dodge					
42nd/Farnam		L	L	F	F
33rd/Farnam					
31st		S	L	S	L
Freeway #1	S	S	S	S	S
Freeway #2	S	S	S	S	S
24th Ave/Farnam/Harney			F		F
24th St/Farnam/Harney			F		F
20th/Farnam			L		L
19th/Farnam			L		L
18th/Farnam			L		L
17th/Farnam			L		L
16th/Farnam			L		L
15th/Farnam			L		L
14th/Farnam			L		L
13th/Farnam			L		L
10th/Farnam/Harney	S	S	F	S	F
Douglas/10th					
Dodge/10th					
Capitol/10th					
Cass/10th					
Fahey				L	L

F = Full Replacement

L = Major modification

S = Minor modification

Traffic Signal Priority

	Alt 1	Alt 2	Alt 2A	Alt 3	Alt 3A
Intersection	BRT	BRT	BRT CF	Streetcar	Streetcar CF
72nd/Dodge	T, Q	T, Q	T, Q	n/a	n/a
62nd/Dodge	T	T	T	n/a	n/a
Farnam/Happy Hollow/Dodge	T	T	T	n/a	n/a
50th/Dodge	T	T	T	n/a	n/a
42nd/Farnam	T, Q	T, Q	T, Q	T	T
33rd/Farnam	T	T	T	T	T
31st/Farnam	T	T	T	T	T
Freeway #1	T, T	T, T	T	T, T	T
Freeway #2	T, T	T, T	T	T, T	T
24th/Farnam/Harny	T, T	T, T	T	T, T	T
20th/Farnam/Harny	T, T	T, T	T	T, T	T
16th/Farnam/Harney	T, T	T, T	T	T, T	T
13th/Farnam/Harney	T, T	T, T	T	T, T	T
10th/Farnam/Harney	T, T	T, T	T	T, T	T
Douglas/10th	n/a	T	T	T	T
Dodge/10th	n/a	T	T	T	T
Capitol/10th	T	T	T	T	T
Fahey/10th	T, Q	T	T	T	T
Total	16	25	18	21	14

T = Traffic Signal Priority

Q = Queue Jump

Fare Collection

	Alt 1	Alt 2	Alt 3
Stop	BRT	BRT	Streetcar
72nd/Dodge	2	2	n/a
62nd/Dodge	2	2	n/a
50th/Dodge	2	2	n/a
42nd/Farnam	2	2	2
40th/Farnam	n/a	n/a	2
36th/Farnam	2	2	2
33rd/Farnam	4	4	4
31st/Farnam	4	4	4
26th/Farnam/Harney	n/a	n/a	2
24th/Farnam/Harney	2	2	2
20th/Farnam/Harney	2	2	2
16th/Farnam/Harney	4	4	4
13th/Farnam/Harney	4	4	4
11th/Farnam/Harney	2	2	2
Capitol/10th	2	2	2
Cass/10th	4	4	4
12th Fahey	4	4	4
16th Fahey	2	2	2
Total	44	44	42