

**2009 CARIS Potential Generic Solution
Transmission Cost Matrix
Order of Magnitude Unit Prices**

(Estimates should not be assumed reflective or predictive of actual project costs)

Item #	Location	Transmission					Substation	System Upgrade Facilities (\$M)
		Line System Voltage (kV)	Block Ampacity (Amp)	Block Capacity (MVA)	Construction Type	Transmission Cost (\$M/Mile)	Line Terminal Addition per Substation (\$M)	
T-1 High	Upstate	345	1673	1000	Overhead	\$5.0	\$9.0	\$9.0
T-1 Mid	Upstate	345	1673	1000	Overhead	\$3.5	\$6.0	\$6.0
T-1 Low	Upstate	345	1673	1000	Overhead	\$2.0	\$3.0	\$3.0
T-2 High	Downstate	345	1673	1000	Undergrd	\$25.0	\$40.0	\$50.0
T-2 Mid	Downstate	345	1673	1000	Undergrd	\$20.0	\$25.0	\$30.0
T-2 Low	Downstate	345	1673	1000	Undergrd	\$15.0	\$10.0	\$10.0
T-3 High	Long Island	138	2092	500	Undergrd	\$20.0	\$20.0	\$25.0
T-3 Mid	Long Island	138	2092	500	Undergrd	\$15.0	\$12.0	\$15.0
T-3 Low	Long Island	138	2092	500	Undergrd	\$10.0	\$4.0	\$5.0

Assumptions:

- 1. Estimates herein should not be utilized for purposes outside of the CARIS process. Also, these estimates should not be assumed as reflective or predictive of actual projects or imply that facilities can necessarily be built for these generic solution order of magnitude estimates. Estimate ranges were identified after Transmission Owner input, a review of recent proposed transmission projects in NY, and reaching consensus at the ESPWG.*
2. Lines constructed within Zones A through G will be comprised of single circuit overhead construction.
3. Lines constructed within Zones H through K will be comprised of underground cable construction.
4. The transmission line will be interconnected into an existing 345kV substation for Upstate and Downstate and 138kV for Long Island.
5. The cost for lines that cross between Zones G and Zones H or I will be pro-rated as overhead or underground based on the mileage of the line included within each Zone.
6. The line can be permitted and constructed utilizing the shortest distance between the two selected substations.
7. The existing substation selected as the interconnection point consists of open air construction and has sufficient space within the fenced yard for adding a new breaker and a half bay for the new line terminal. If the selected substation is Gas-Insulated, a factor of 4 times will be applied to the base substation terminal costs.
8. The control house at the existing substations selected as the interconnection point has sufficient space for installing the new protection and communication equipment for the new line terminal.
9. Estimates include costs for material, construction labor, engineering labor, permits, testing and commissioning.
10. The cost per mile includes a range to account for the variable land and permitting costs associated with a project such as utilizing an existing ROW, expanding an existing ROW or obtaining new ROW.
11. The substation line terminal costs include a range to account for necessary protection and communication equipment.
12. System Upgrade Facilities costs include a range to account for line terminal relay upgrades and replacement of over-dutied breakers.