

Table 3: Performance comparison using different mechanisms on TaxiNYC dataset.

Backbone	Mechanism	MSE	MAE	wMAPE (%)	sMAPE (%)	Earliness (%)	Frequency (%)
LSTM	LPB	0.3674	11.9779	44.1737	42.8817	0 (0 hrs)	0
	UFI (1 hr)	0.2927	10.6847	39.4046	39.4084	95.6522 (11 hrs)	47.8261
	UFI (6 hrs)	0.3269	11.3940	42.0206	40.8913	52.1739 (6 hrs)	4.3478
	LFE (COSMOO-b)	0.3550	11.8200	43.5916	42.2946	8.6957 (1 hrs)	0
	LFE (COSMOO-a)	0.3550	11.8200	43.5916	42.2946	8.6957 (1 hrs)	0
	COSMOO-b	0.3401	11.6047	42.7977	41.7830	9.3006 ( $\approx$ 1 hrs)	1.2591
	COSMOO-a	0.3401	11.6047	42.7977	41.7830	9.3006 ( $\approx$ 1 hrs)	1.2591
ConvLSTM	LPB	0.3243	10.1370	37.3848	35.8821	0 (0 hrs)	0
	UFI (1 hr)	0.2084	8.5871	31.6689	31.1845	95.6522 (11 hrs)	47.8261
	UFI (6 hrs)	0.2765	9.5099	35.0718	34.1500	52.1739 (6 hrs)	4.3478
	LFE (COSMOO-b)	0.2919	9.6876	35.7273	34.6796	21.7391 (2.5 hrs)	0
	LFE (COSMOO-a)	0.2919	9.6876	35.7273	34.6796	21.7391 (2.5 hrs)	0
	COSMOO-b	0.2703	9.4764	34.9485	34.0072	21.4096 ( $\approx$ 2.5 hrs)	3.3887
	COSMOO-a	0.2703	9.4764	34.9485	34.0072	21.4096 ( $\approx$ 2.5 hrs)	3.3887
SAConvLSTM	LPB	0.3464	10.3849	38.2988	36.9283	0 (0 hrs)	0
	UFI (1 hr)	0.2464	9.1174	33.6246	32.9024	95.6522 (11 hrs)	47.8261
	UFI (6 hrs)	0.3111	9.9050	36.5291	35.4164	52.1739 (6 hrs)	4.3478
	LFE (COSMOO-b)	0.2894	9.6604	35.6270	34.5798	73.9130 (8.5 hrs)	0
	LFE (COSMOO-a)	0.2894	9.6604	35.6270	34.5798	73.9130 (8.5 hrs)	0
	COSMOO-b	0.2832	9.6120	35.4485	34.6614	74.1295 ( $\approx$ 8.5 hrs)	33.3268
	COSMOO-a	0.2832	9.6120	35.4485	34.6614	74.1295 ( $\approx$ 8.5 hrs)	33.3268
TaylorNet	LPB	0.2667	9.5525	35.2289	34.3133	0 (0 hrs)	0
	UFI (1 hr)	0.2131	8.5972	31.7058	31.3996	95.6522 (11 hrs)	47.8261
	UFI (6 hrs)	0.2490	9.1544	33.7611	33.2407	52.1739 (6 hrs)	4.3478
	LFE (COSMOO-b)	0.2460	9.1087	33.5924	33.0493	60.8696 (7 hrs)	0
	LFE (COSMOO-a)	0.2460	9.1087	33.5924	33.0493	60.8696 (7 hrs)	0
	COSMOO-b	0.2368	9.0369	33.3278	32.8552	60.5745 ( $\approx$ 7 hrs)	29.4806
	COSMOO-a	0.2368	9.0369	33.3278	32.8552	60.5745 ( $\approx$ 7 hrs)	29.4806