ε	$|Q|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
		Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
2%	16,562	0.4	194,095	2.3	3	0	103,633	102 (13.9)	369	18,497	3,838	17,561
4%	66,443	0.8	930,999	42.7	25	0	345,524	441 (120)	853	74,018	29,455	71,542
6%	177,876	1	1,450,931	86.2	40	0	536,824	1,567 (336)	1,701	190,441	129,088	184,809
8%	347,308	1.9	2,693,966	154	49	0	729,538	2,400 (476)	1,708	363,336	419,529	355,026
10%	507,807	2.7	3,892,420	319	76	0	894,506	3,534 (696)	1,833	528,258	866,048	521,651

ε	$|Q|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
		Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
5%	21,190	0.3	423316	7	10	0	106,750	49 (17.9)	448	24,787	1,831	22,974
10%	90,567	1	1369625	18.1	18	0	154,456	347 (89.4)	691	96,432	29,773	95,009
15%	241,118	1.5	2606948	45.9	45	5	503,897	920 (233)	1,134	251,748	164,159	245,934
20%	448,735	1.7	3010128	35.7	37	1	865,989	1,644 (645)	1,774	466,701	403,426	457,645
25%	665,259	1.8	3193448	82.1	72	2	1,136,570	2,378 (882)	1,956	688,826	737,853	677,231

ε	$|Q|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
		Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
5%	577	0.01	31,913	0.8	4	0	4,636	2.8 (0.2)	44	1,051	13.1	1,033
10%	4,556	0.4	438,204	17.9	62	1	39,098	9.6 (2.6)	213	6,632	185	6,233
15%	11,531	0.4	581,140	21.9	67	3	43,425	28 (3.5)	353	14,522	737	13,804
20%	24,691	0.4	727,881	21.6	69	4	68,068	84.8 (13.4)	589	30,424	2,652	28,042
25%	52,094	0.6	919,014	19.9	69	5	184,916	179.7 (43.9)	828	58,506	9,195	56,008

ε	$|Q|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
		Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
10%	6,112	0.1	98,251	1.4	14	0	44,909	3.1 (1)	156	6,999	96.5	6,665
20%	30,968	0.2	286,347	5.7	37	1	108,670	52 (17.1)	598	37,679	2,364	34,089
30%	81,574	0.2	399,698	4.9	30	1	162,404	86.9 (36.8)	787	94,122	9,875	86,310
40%	156,485	0.2	435,079	4.9	29	2	263,346	93.4 (59.9)	749	165,820	23,533	159,623
50%	204,812	0.2	435,666	4.9	28	1	287,775	95.6 (60.3)	709	212,930	38,011	208,885

TABLE V

QUERY PROCESSING TIME AND DPS QUALITY OF (S,T)-DPS QUERIES ON THE USA DATASET ($\varepsilon = 4\%$)

ε'	$|S|$	$|T|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
			Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
2%	60,011	84,939	1	1,255,634	55	30	0	419,391	487 (108)	818	120,747	40,400	116,744
4%	54,413	87,808	1.6	2,062,571	141	52	0	606,434	619 (173)	738	152,790	41,170	147,808
6%	47,055	110,622	2.2	3,101,715	149	52	1	729,539	4,409 (171)	689	203,071	58,828	172,256
8%	40,416	102,353	2.7	3,959,442	346	79	0	854,078	1,016 (194)	688	168,401	61,957	162,493
10%	30,361	88,547	3.4	4,951,731	499	85	1	913,247	2,082 (274)	711	147,233	60,415	141,731

TABLE VI

QUERY PROCESSING TIME AND DPS QUALITY OF (S,T)-DPS QUERIES ON THE EAST DATASET ($\varepsilon = 10\%$)

ε'	$|S|$	$|T|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
			Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
5%	153,398	52,480	0.9	1,361,616	38.9	34	4	344,388	139 (54.7)	435	171,139	15,801	168,410
10%	256,485	23,650	1.1	1,882,324	33.4	19	0	518,674	47.2 (33.1)	147	287,786	9,771	281,962
15%	320,151	14,633	1.1	1,810,814	20.2	14	0	543,773	21.6(16.5)	64	342,287	6,832	337,607
20%	330,329	7,178	1.1	1,820,768	21.1	16	0	573,759	29 (17.4)	77	346,814	3,407	341,533
25%	322,707	1,077	1.1	1,894,891	54.8	47	2	598,137	7.5 (6.5)	18	335,877	535	329,298

TABLE VII

QUERY PROCESSING TIME AND DPS QUALITY OF (S,T)-DPS QUERIES ON THE NW DATASET ($\varepsilon = 10\%$)

ε'	$|S|$	$|T|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
			Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
5%	5,118	4,359	0.3	423,280	17.4	62	1	39,141	11.7 (2.3)	187	10,004	196	9,181
10%	7,594	5,376	0.3	438,204	16.3	60	3	43,854	22.4 (4.1)	239	16,214	295	14,855
15%	9,910	6,500	0.3	423,280	19.5	61	4	62,651	31.6 (4.7)	255	20,317	472	18,927
20%	13,417	7,573	0.3	536,017	18.8	58	5	110,620	30 (8.5)	199	25,151	654	23,625
25%	13,823	8,340	0.5	852,920	22.6	80	5	169,712	56.7 (13.2)	249	28,108	933	25,460

TABLE VIII

QUERY PROCESSING TIME AND DPS QUALITY OF (S,T)-DPS QUERIES ON THE COL DATASET ($\varepsilon = 20\%$)

ε'	$|S|$	$|T|$	BL-E		RoadPart				Convex Hull Method			BL-Q	
			Time	$|V'|$	Time	b	b_v	$|V'|$	Time	$|border|$	$|V'|$	Time	$|V'|$
10%	17,662	42,473	0.2	399,698	7.5	49	2	135,093	18 (11.8)	255	55,608	1,331	53,618
20%	15,461	40,633	0.2	428,225	8.2	50	2	135,093	25.1 (11.8)	251	61,222	1,760	59,460
30%	14,524	37,019	0.2	433,908	9.9	58	2	162,470	35.6 (15)	244	60,015	1,951	58,078
40%	11,324	22,685	0.3	435,666	10.8	60	4	183,780	47.5 (14.7)	289	44,651	1,670	42,284
50%	11,962	7,235	0.2	435,666	5.1	33	0	284,244	42.3 (24.5)	263	28,763	1,031	26,910

TABLE IX
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY Q-DPS QUERIES ON THE USA DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
2%	173	3.9	4.2	1.8	1.7
4%	222	25.8	18.9	11.5	9.2
6%	394	71.2	55	31	30.6
8%	258	123.3	69.3	67	57.6
10%	347	184.5	102	86.7	83.7

TABLE X
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY Q-DPS QUERIES ON THE EAST DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
5%	92.6	6.2	3.8	1.9	1.9
10%	126	44.8	18.2	17.9	14.3
15%	150	81.1	50.8	44.5	38.8
20%	184	107.9	78.1	72.1	66.9
25%	205	187.1	119	98.4	96.6

TABLE XI
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY Q-DPS QUERIES ON THE NW DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
5%	16.2	0.3	0.2	0.07	0.2
10%	16.4	4.1	1.4	0.5	0.8
15%	19.1	6.6	2.5	1.3	1.2
20%	23.1	10.6	4.8	3.2	2.6
25%	26	18.5	11.1	7.8	6.8

TABLE XII
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY Q-DPS QUERIES ON THE COL DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
10%	5.4	1.5	0.8	0.6	0.5
20%	10.4	8.5	5.2	3	3.4
30%	16.8	17.4	12.4	10.5	10.6
40%	25.5	27	22.8	20.7	18.8
50%	29.2	33.1	28.2	24.8	23.8

TABLE XIII
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY (S, T)-DPS QUERIES ON THE USA DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
2%	235	60.3	35.7	22	18.8
4%	295	124	96.8	33.6	29.2
6%	377	251	152	47.4	38.2
8%	575	366	190	52.8	37.9
10%	600	582	280	38.2	34.8

TABLE XIV
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY (S, T)-DPS QUERIES ON THE EAST DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
5%	128	83.3	44.8	42.6	42.4
10%	177	150	85.6	83	73.6
15%	218	208	122	107	99.7
20%	281	264	155	108	100.2
25%	324	321	153	119	105.9

TABLE XV
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY (S, T)-DPS QUERIES ON THE NW DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
5%	16.7	4.8	2	1	0.9
10%	20.2	7.5	3.6	2.3	1.9
15%	22.7	10.9	6.1	3.4	3.2
20%	27.9	16.5	10.3	5	5.4
25%	34	27.4	16.8	5.9	6.1

TABLE XVI
TIME FOR 1000 PPSP QUERIES ON THE DPS RETURNED BY (S, T)-DPS QUERIES ON THE COL DATASET

ε	Original Road Network	BL-E	RoadPart	Convex Hull Method	BL-Q
10%	10.9	10.5	6.4	6	6
20%	14.9	15.4	9.3	7.3	6.4
30%	20.7	20.6	13	7.8	6
40%	33.7	33.5	23.2	7.7	6.8
50%	59.7	66.3	48.4	4.4	4.2