ATRI Truck Probe Data: A First Look

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What Is ATRI Truck Probe Data?

- Truck event recorder data shared with American Transportation Research Institute for research purposes
- ATRI has shared it to support CMAP's freight system planning work.
- Data File has truck ID, time, location (at model zone level), and speed information.
- Typically recorded every minute or so.

What Is ATRI Truck Probe Data?

- Very large files
- National trucking companies
- Typically excludes local deliveries
- Key word: Sample

Why Are We Analyzing Probe Data?

- Support freight model validation and calibration
- Support freight plan development by improving our understanding of trip patterns and operations aspects of trucking (e.g., time of day)

How Was the Probe Data Analyzed?

- PostgreSQL database
- Rolling window analysis of truck tours
- Identified stops (>20 minutes) and external trips (>2 hours)
- Preliminary results represent a sample of trucks moving in CMAP modeling area over a two-week period.
- We have six samples to analyze.

Preliminary Results: Region County-to-County Flows

Origin:	Destination: Chicago	Suburban Cook	McHenry	Lake	Kane	DuPage	Will	Kendall
Chicago	31,518	10,460	238	741	863	1,801	3,243	204
Suburban Cook	10,013	33,672	702	1,995	1,839	4,938	5,758	313
McHenry	322	779	2,469	382	417	192	156	42
Lake	810	1,868	437	4,844	204	463	467	61
Kane	884	1,788	418	220	4,521	1,633	1,068	622
DuPage	1,794	5,000	229	436	1,644	10,184	2,557	360
Will	3,426	5,675	164	446	1,037	2,574	21,788	500
Kendall	188	343	43	73	677	432	558	1,340

Preliminary Results: External Trips

- Internal Chicago-Region Trips: 194,833
- External Trips with Chicago-Region Trip End: 125,579
- External Trips with No Chicago-Region Trip End: 189,644
- Percent of Trips that Left Modeling Area: 25.2%
- Recall that: preliminary results represent a sample of trucks moving in CMAP modeling area over a two-week period.

Preliminary Results: County-to-County Flows (Regional Origin)

Origin:	Destination: Grundy	Boone	DeKalb	Kankakee	Winnebago	Ogle/Lee (parts)	LaSalle
Chicago	909	82	213	714	704	509	824
Suburban Cook	1,509	135	375	1,223	1,708	667	1,182
McHenry	27	61	50	90	267	55	73
Lake	146	15	25	73	239	59	93
Kane	283	135	251	87	799	318	416
DuPage	574	60	250	210	402	271	339
Will	2,782	45	271	1,636	1,025	374	1,600
Kendall	296	1	107	66	148	99	332

Preliminary Results: County-to-County Flows (Regional Origin)

Origin:	Destination: Lake - IN	Porter/LaPorte	Kenosha/ Racine	Walworth	Sum
Chicago	3,851	3,447	2,608	162	63,091
Suburban Cook	4,899	4,385	2,884	393	78,590
McHenry	95	166	220	413	6,276
Lake	436	439	1,857	207	12,743
Kane	480	552	481	159	15,115
DuPage	730	819	798	89	26,746
Will	2,315	2,705	1,517	148	50,028
Kendall	182	266	86	15	5,252

Preliminary Results: External County-to-County Flows

Origin:	Destination: Grundy	Boone	DeKalb	Kankakee	Winnebago	Ogle/ Lee (parts)	LaSalle	Lake - IN	Porter/ LaPorte	Kenosha/ Racine	Walworth
Grundy	3,388	13	35	292	193	145	1,260	513	1,062	369	39
Boone	10	981	141	3	439	471	194	172	317	36	58
DeKalb	64	136	1,763	44	407	451	394	173	118	134	68
Kankakee	249	2	15	5,513	91	28	228	653	867	260	25
Winnebago	238	497	368	149	16,533	2,004	2,430	1,129	1,671	603	709
Ogle/Lee (parts)	94	477	481	51	1,657	3,862	1,139	237	342	416	367
LaSalle	1,291	157	433	243	2,273	1,238	14,826	778	2,023	366	302
Lake - IN	539	161	174	673	1,085	186	811	16,318	6,231	1,486	211
Porter/ LaPorte	1,232	481	128	875	1,406	356	1,962	6,035	25,099	1,809	229
Kenosha/ Racine	349	15	136	271	655	177	259	1,530	2,124	22,354	1,027
Walworth	36	44	95	32	982	340	359	151	144	1,083	7,218

Next Steps

- Continue analysis of second file
- Intermodal terminal analysis
- Time of day analysis

Thank You!

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