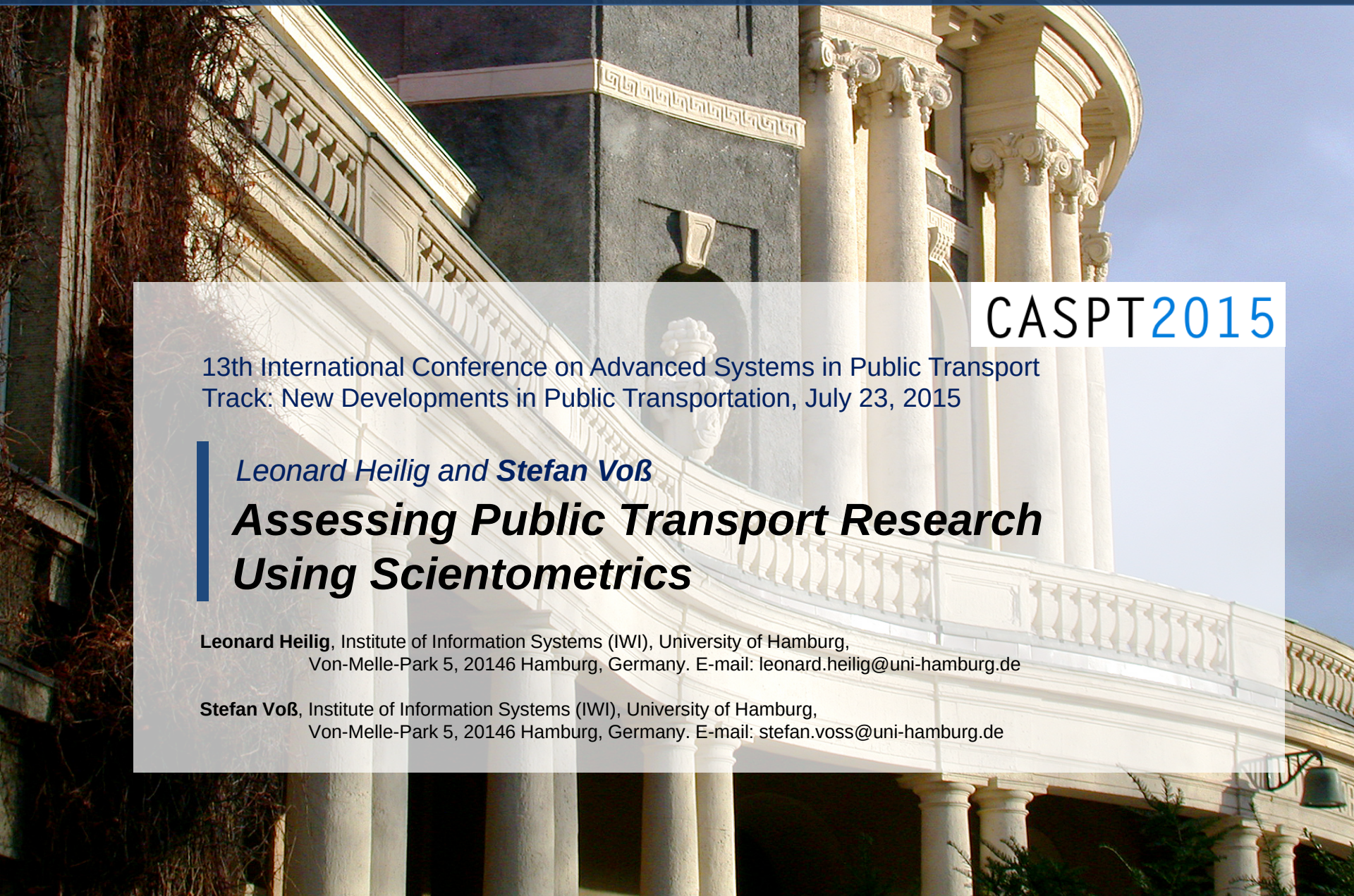

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Assessing Public Transport Research Using Scientometrics

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Introduction

- Public transport research involves a lot of disciplinary and interdisciplinary research methods, techniques and technologies to investigate, regulate and advance public transport

- The considerable number of research contributions reflect the international scope and growing interest in public transport research (cf. Banister, 2014)

- Hugh increase of publications requires a manageable entry point on a meta level

- This entry point can be provided by a scientometric analysis of public transport research, which extends, on a higher level, common public transport-related reviews on specific topics

Scientometrics

- Scientometrics refers to quantitative studies and methods to measure and analyse science from a meta-perspective
  (Van Raan, 1996; Voß and Zhao, 2005; Schwarze et al., 2012)

- Development and improvement of an academic discipline (Lewis et al., 2007; Straub, 2006)
  → vital basis for defining and debating future research agendas
  (Serenko and Bontis, 2004)

- A scientometric analysis can give some indication of research activities in general, such as, regarding
  - research outlets
  - research impact
  - co-citations
  - influential countries/affiliations/authors
  - development of key topics

- "Evaluation tool of science"

Scientometric Analysis in Public Transport Research

- Lack of scientometric studies in the area of public transport research
- With our study we aim to identify and explore general patterns on
  - how research is conducted and conveyed within the community
  - what key contributing and influencing forces are serving the current and future development of public transport research
- Focus on recent developments between 2009 and 2013
- Analysis of 7,868 peer-reviewed publications;
  we used the terms **public transport*, *public transit*, *mass transit*, and *urban transport** in the fields Title, Abstract, Keywords, and Source Title (title of the publication outlet)

A scientometric analysis of public transport research. *Journal of Public Transportation* 18 (2) (2015), 111 - 141. [DOI 10.5038/2375-0901.18.2.8]

Methodology I: Data Collection and Cleansing

- Generic search query in Elsevier‘s Scopus
- Bibliographic data export
- Inaccurate data records (e.g., unspecified authors/title, double entries, etc.) are removed

- Final data collection:
  - 7,868 publications
  - 160,132 references
  - 22,247 unique keywords
  - 22.16 references per article
  - 92.18% written in English

- Number of publications per year:

Database	2009	2010	2011	2012	2013	Overall
Scopus	1,269	1,318	1,618	1,745	1,918	7,868
ISI WoS	654	646	673	764	801	3,538

Why Scopus?

Why Scopus?

ISSN	Journal Title	WoS
18245463	Advances in Transportation Studies	-
08669546	Archives of Transport (active until 2012)	-
2213624X	Case Studies on Transport Policy	-
22120122	Economics of Transportation	
15677141	European Journal of Transport and Infrastructure Research	X
18253997	European Transport - Trasporti Europei	-
18670717	European Transport Research Review	-
19391390	IEEE Intelligent Transportation Systems Magazine	X
15249050	IEEE Transactions on Intelligent Transportation Systems	X
20429738	IET Electrical Systems in Transportation	-
1751956X	IET Intelligent Transport Systems	X
18688659	International Journal of Intelligent Transportation Systems Research	-
17566517	International Journal of Shipping and Transport Logistics	X
15568318	International Journal of Sustainable Transportation	X
03918440	International Journal of Transport Economics	-
10096744	Journal of Transportation Systems Engineering and Information Technology	-
01976729	Journal of Advanced Transportation	X
15472450	Journal of Intelligent Transportation Systems	X
2095087X	Journal of Modern Transportation	-
1077291X	Journal of Public Transportation	X
22109706	Journal of Rail Transport Planning and Management	-
09696997	Journal of Air Transport Management	X
16711637	Journal of Traffic and Transportation Engineering	-
22141405	Journal of Transport and Health	X
19387849	Journal of Transport and Land Use	-
00225258	Journal of Transport Economics and Policy	X
09666923	Journal of Transport Geography	X
00225266	Journal of Transport History	-
0733947X	Journal of Transportation Engineering	X
19439962	Journal of Transportation Safety and Security	-
19387741	Journal of Transportation Security	-
15706672	Journal of Transportation Systems Engineering and Information Technology	-
18744478	Open Transportation Journal	-
03037800	Periodica Polytechnica Transportation Engineering	-
16137159	Public Transport	-
1016796X	Public Transport International (active until 2012)	-
22105395	Research in Transportation Business and Management	-
07398859	Research in Transportation Economics	X
10375783	Road and Transport Research	X
23275626	SAE International Journal of Transportation Safety	-
0360859X	Special Report - National Research Council, Transportation Research Board	-
00404748	Texas Transportation Researcher	-
16484142	Transport	X
14076160	Transport and Telecommunication	-
0967070X	Transport Policy	X
18960596	Transport Problems	-
01441647	Transport Reviews	X
00494488	Transportation	X
22143912	Transportation Geotechnics	-
00411612	Transportation Journal	X
19427867	Transportation Letters	X
03081060	Transportation Planning and Technology	X
09658564	Transportation Research Part A: Policy and Practice	X
01912615	Transportation Research Part B: Methodological	X
13619209	Transportation Research Part D: Transport and Environment	X
13665545	Transportation Research Part E: Logistics and Transportation Review	X
13698478	Transportation Research Part F: Traffic Psychology and Behaviour	X
03611981	Transportation Research Record	X
00411655	Transportation Science	X
18128602	Transportmetrica (active until 2012)	X
23249935	Transportmetrica A: Transport Science	X
21680566	Transportmetrica B	X
17494729	World Review of Intermodal Transportation Research	-
10062823	Journal of Wuhan University of Technology (Transportation Science and Engineering)	-

WoS covers only 53 percent of the transport-related journals that are indexed by Scopus and does not provide any additional journals that are not covered by Scopus

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Methodology II: Data Processing

- Research productivity
  - Approaches: straight count, author position, equal credit (Holsapple et al., 1994)
  - Several pros and cons
  - Equal credit method compensates errors by scoring individual authors based on the reciprocal of the number of authors
  - Productivity of individual authors decreases by each additional author

- Research impact
  - Individual number of absolute citations
  - Impact factor (2 years, 5 years)
  - Normalized citation impact index (NCII): takes into account the longevity of each publication

$$NCII = \frac{\text{number of citations per publication}}{\text{publication longevity (in years)}}$$

Overall citation pattern

Year	2009	2010	2011	2012	2013
Number of publications	1,269	1,318	1,618	1,745	1,918
Number of citations	4,066	3,860	3,370	2,118	756
Longevity (in years)	5	4	3	2	1
Overall NCII	813.20	965.00	1,123.33	1,059.00	756.00
Avg. NCII / pub.	0.64	0.73	0.69	0.61	0.39

- Keyword analysis: counts occurance and co-occurance of unique keywords across all publications

Academic Disciplines

- Scopus assigns each publication to at least one academic discipline
- Importance of information and communication technology (ICT)
- Environmental impact is increasingly investigated (e.g., eco-friendly fuel, vehicle alternatives, traffic control, etc.)
- More research on the interface between public transport and other disciplines is required

Academic Discipline	Avg. (%)
Social Sciences	32.86
Engineering	28.46
Computer Science	13.35
Environmental Science	8.07
Decision Sciences	4.94
Mathematics	3.53
Business, Management and Accounting	3.17
Economics, Econometrics and Finance	2.77
Energy	2.25
Materials Science	0.60

Contributing Countries and Authors

Contributing countries (left: all publications; right: pub. citations >= 10)

R.	Country	f (%)	R.	Country	f (%)
1	China	18.82	1	United States	21.84
2	United States	14.85	2	United Kingdom	8.35
3	United Kingdom	5.66	3	China	7.07
4	Australia	4.60	4	Italy	6.42
5	Germany	3.99	5	Australia	6.00
6	Canada	3.67	6	Canada	4.93
7	Italy	3.58	6	Germany	4.93
8	Spain	3.50	8	Spain	4.50
9	France	3.43	9	Netherlands	3.64
10	Japan	2.52	10	France	3.21
11	Netherlands	2.03	10	Sweden	3.21
12	India	1.91	12	Belgium	2.36
13	Sweden	1.69	13	Greece	1.71
14	Belgium	1.67	13	Switzerland	1.71
15	Taiwan	1.40	13	Japan	1.71
16	South Korea	1.32	16	Chile	1.50
17	Portugal	1.26	17	Taiwan	1.28
18	Switzerland	1.24	17	Hong Kong	1.28
19	Austria	1.20	17	Brazil	1.28
20	Brazil	1.10	20	Portugal	1.07
Total		79.45	Total		88.01

- Research contributions are from countries with a relatively large share of public transport
- Some countries face serious transport problems (see, e.g., Vickerman, 2000)
- Some countries are generally strong research contributors

- Mostly the high productivity of a handful of scholars contribute to a large extent to the overall productivity
- Individual productivity is reflected in the countries‘ productivity

Top individual productivity (equal credit method)

R.	Author	Affiliation	Country	n	Score
1	Mulley, Corinne	University of Sydney	Australia	34	15.23
2	Currie, Graham	Monash University	Australia	30	12.43
3	Ceder, Avishai	University of Auckland	New Zealand	24	11.83
4	Cervero, Robert	University of California, Berkeley	United States	15	8.87
5	Hensher, David	University of Sydney	Australia	23	8.82
6	Chen, Yanyan	Beijing Jiaotong University	China	23	8.20
7	Zhang, Guo-wu	Beijing Jiaotong University	China	9	8.20
8	Kumar, Ashok	University of Toledo	United States	17	7.75
9	El-Geneidy, Ahmed	McGill University	Canada	18	7.07
10	Nelson, John	University of Aberdeen	United Kingdom	17	6.27
11	Delbosc, Alexa	Monash University	Australia	14	6.08
12	Wang, Wei	Southeast University	China	21	5.75
13	Kadiyala, Akhil	University of Toledo	United States	12	5.25
14	Yang, Xiaoguang	Tongji University	China	18	5.15
15	Karlaftis, Matthew G.	National Technical University of Athens	Greece	11	5.08
16	Chen, Xuewu	Southeast University	China	14	4.90
17	Gordon, Cameron	University of Canberra	Australia	7	4.75
18	Tirachini, Alejandro	University of Sydney	Australia	13	4.70
19	Chen, Yu-yi	Beijing University of Technology	China	12	4.37
20	Jin, Wen-zhou	South China University of Technology	China	11	4.25

Document Type and Citations

- Selection of outlet: Quick feedback versus higher reputation

- Both alternatives are frequently used to convey knowledge and insights of research activities (numbers are quite stable), although journal articles achieve about 87% of all citations

Number of publications by document type

Outlet	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)	Overall (%)
Journal Paper	51.22	55.39	51.55	56.68	57.14	54.39
Conference Paper	42.63	38.85	40.17	38.28	36.97	39.38
Review	1.73	1.06	2.16	2.35	1.88	1.84
Short Survey	2.52	1.59	1.11	0.74	0.16	1.23
Article in Press	0.00	0.08	0.06	0.46	2.50	0.62
Other	1.89	3.03	4.94	1.49	1.36	2.54
n	1,269	1,318	1,618	1,745	1,918	7,868

Outlet citation patterns

Outlet	2009 (%)	2010 (%)	2011 (%)	2012 (%)	2013 (%)	Overall (%)
Journal Paper	85.19	87.44	84.54	87.58	90.21	86.99
Conference Paper	9.99	9.79	9.26	8.55	5.03	8.52
Review	4.01	1.66	5.58	3.45	4.76	3.89
Other	0.81	1.11	0.62	0.42	0.00	0.59
Number of citations	4,066	3,860	3,370	2,118	756	14,170

Top Cited Journals

R.	ISSN	Journal	Publisher	f	n	n_{all}	IF (2 y.)	IF (5 y.)
1	0965-8564	Transportation Research Part A Policy and Practice	Elsevier	978	137	522	2.525	2.855
2	0967-070X	Transport Policy	Elsevier	813	175	473	1.718	2.084
3	0966-6923	Journal of Transport Geography	Elsevier	747	146	758	2.214	2.768
4	0968-090X	Transportation Research Part C Emerging Technologies	Elsevier	530	86	591	2.006	2.433
5	0191-2615	Transportation Research Part B Methodological	Elsevier	402	67	547	3.894	4.439
6	0361-1981	Transportation Research Record	TRB	380	225	4608	0.442	0.636
7	0049-4488	Transportation	Springer	280	81	280	1.617	2.061
8	1361-9209	Transportation Research Part D Transport and Environment	Elsevier	265	53	469	1.626	1.626
9	1866-749X	Public Transport	Springer	210	65	73	-	-
10	0733-9488	Journal of Urban Planning and Development	ASCE	204	56	196	0.931	0.9
11	0301-4215	Energy Policy	Elsevier	176	31	4257	2.696	3.402
12	1366-5545	Transportation Research Part E Logistics and Transportation Review	Elsevier	169	21	484	2.193	2.943
13	0308-518X	Environment and Planning A	Pion Ltd.	158	23	996	1.694	2.485
14	0733-947X	Journal of Transportation Engineering	ASCE	150	68	668	0.877	1.073
15	1556-8318	International Journal of Sustainable Transportation	Taylor & Francis	149	31	120	1.447	1.505
16	0013-936X	Environmental Science & Technology	American Chemical Society	133	8	-	5.481	6.277
17	0264-2751	Cities	Elsevier	132	32	455	1.836	2.055
18	0739-8859	Research in Transportation Economics	Elsevier	114	73	262	-	-
19	0144-1647	Transport Reviews	Taylor & Francis	100	25	225	1.551	2.31
20	0042-0980	Urban Studies	SAGE	98	20	1172	1.33	1.961
21	0360-5442	Energy	Elsevier	96	8	3343	4.159	4.465
22	0048-9697	Science of the Total Environment	Elsevier	94	17	5169	3.163	3.906
23	0094-1190	Journal of Urban Economics	Elsevier	91	8	262	1.888	3.277
24	1570-6672	Journal of Transportation Systems Engineering and Information Technology	Elsevier	84	105	274	-	-
25	1567-7141	European Journal of Transport and Infrastructure Research	TU Delft	77	14	118	1.023	1.132
26	0304-3894	Journal of Hazardous Materials	Elsevier	75	5	7514	4.331	5.123
26	1524-9050	IEEE Transactions on Intelligent Transportation Systems	IEEE	75	18	755	2.472	2.935

Note: For a list of top cited publications, the reader is referred to the journal article

Top Cited Affiliations and Authors

Top research institutions ($NCII >= 40.00$)

R.	Institution	Country	$NCII$
1	University of Toronto	Canada	92.45
2	University of California, Berkeley	United States	87.70
3	Monash University	Australia	76.23
4	University of Sydney	Australia	71.18
5	Tsinghua University	China	65.43
6	Rutgers University	United States	56.73
7	Karlstad University	Sweden	53.37
8	University of Melbourne	Australia	52.83
9	University of Hong Kong	China	50.85
10	Beijing Jiaotong University	China	49.80
11	Texas A&M University	United States	49.03
12	University of Minnesota	United States	48.63
13	Delft University of Technology	Netherlands	46.02
14	Purdue University	United States	44.17
15	Queensland University of Technology	Australia	44.00
16	University of Leeds	United Kingdom	41.62

- Impact of affiliations is derived from the NCII
- The ranking of affiliations is highly dependent on the number and individual impact of scholars

- Impact of individual authors is derived from the number of citations (*f*) and NCII

Top cited authors ($f >= 70$)

R.	Name	Affiliation	Country	n	$NCII$	f
1	Cervero, Robert	University of California, Berkeley	United States	15	41.433	175
2	Mannering, Fred	Purdue University	United States	3	40.167	158
3	Lord, Dominique	Texas A&M University	United States	2	38.500	154
4	Kennedy, Chris	University of Toronto	Canada	8	33.083	142
5	Currie, Graham	Monash University	Australia	30	36.367	132
6	Pucher, John	Rutgers University	United States	7	45.000	127
7	Phdungsilp, Aumnad	Dhurakij Pundit University	Thailand	2	24.250	114
8	Dell'Olio, Luigi	University of Cantabria	Spain	12	33.167	104
9	Ibeas, Angel	University of Cantabria	Spain	10	28.767	100
10	Steinberger, Julia	University of Klagenfurt	Austria	1	17.000	85
10	Pataki, Diane	University of California, Irvine	United States	1	17.000	85
10	Mndez, Gara Villalba	Autonomous University of Barcelona	Spain	1	17.000	85
10	Gasson, Barrie	University of Cape Town	South Africa	1	17.000	85
10	Hansen, Yvonne	University of Cape Town	South Africa	1	17.000	85
10	Ramaswami, Anu	University of Colorado Denver	United States	1	17.000	85
10	Hillman, Tim	University of Colorado Denver	United States	1	17.000	85
17	Burinskiene, Marija	Vilnius Gediminas Technical University	Lithuania	5	16.867	83
18	Hensher, David	University of Sydney	Australia	23	28.333	80
19	Karlaftis, Matthew	National Technical University of Athens	Greece	11	20.233	76
20	Gomez, Luis Fernando	Foundacion FES Social	Colombia	1	15.000	75
20	Jacoby, Enrique	Pan-American Health Organization	United States	1	15.000	75
20	Sarmiento, Olga L.	University of Los Andes	Colombia	1	15.000	75
20	Neiman, Andrea	University of Illinois, Chicago	United States	1	15.000	75
20	Daganzo, Carlo F.	University of California, Berkeley	United States	6	26.333	75
25	Li, Jianqiu	Tsinghua University	China	6	21.483	70

Lotka‘s Law I

- Lotka’s law describes a frequency distribution of scientific productivity in a certain field of research

- According to Alfred J. Lotka, a proportional relationship between the number of scholars accounting for p publications is about $1/p^{\alpha}$, where $\alpha = 2$ (Coile, 1977)

- Theoretical relationship between the **number of publications p** and the proportional number of **all authors making p contributions:**

$$f(p) = C/p^{\alpha}$$

  where α and C are non-negative constants to be determined from the observations and p = 1, 2, 3, 4, etc. Constant C corresponds to the number of authors that have contributed to the field only once (Serenko and Bontis, 2004)

- Enables a comparison with other fields and an estimation of future research productivity

Lotka‘s Law II

Lotka’s law – frequency distribution of contributions by author

Number of publications	Observed number of authors	Predicted number of authors ($\alpha = 2$)	Difference observed – predicted ($\alpha = 2$)	Predicted number of authors ($\alpha = 2.62$)	Difference observed – predicted ($\alpha = 2.62$)
1	7,653	7,653.00	0.00	7,653.00	0.00
2	1,282	1,913.25	631.25	1,244.90	37.10
3	366	850.33	484.33	430.30	64.30
4	162	478.31	316.31	202.50	40.50
5	90	306.12	216.12	112.86	22.86
6	46	212.58	166.58	70.00	24.00
7	26	156.18	130.18	46.74	20.74
8	18	119.58	101.58	32.94	14.94
9	11	94.48	83.48	24.19	13.19
10	7	76.53	69.53	18.36	11.36
11	9	63.25	54.25	14.30	5.30
12	2	53.15	51.15	11.39	9.39
13	2	45.28	43.28	9.23	7.23
14	2	39.05	37.05	7.60	5.60
15	3	34.01	31.01	6.35	3.35
16	3	29.89	26.89	5.36	2.36
17	1	26.48	25.48	4.57	3.57
18	1	23.62	22.62	3.94	2.94
19	1	21.20	20.20	3.42	2.42
21	3	17.35	14.35	2.63	0.37
23	1	9.76	8.76	1.24	0.24
30	1	7.96	6.96	0.95	0.05
Total	9,690	12,231.38	2,541.38	9,906.75	291.81
				R^2 ($\alpha = 2.00$)	0.99001
				R^2 ($\alpha = 2.62$)	0.99987

- Both the predictions for α = 2 and α = 2.62 fit well to the observed number of authors ($R^2_{\alpha=2,\ \alpha=2.62}$ >= 0.99)
- Lotka‘s law is applicable for the field of public transport

Keyword Analysis

- Keywords are used to abstractly summarize and classify the content of a scientific publication
- Provide insights into important topics, current trends and relationships between topics reflected by keyword clusters
- Implementation of methods to aggregate unique keyword occurrences and occurrences of keyword clusters with different lengths
- Example
  - Article 1: bus, accessibility, GPS
  - Article 2: GIS, GPS, bus
  - Top keywords: bus → 2, GPS → 2, GIS → 1, accessibility → 1
  - Keyword cluster: bus, GPS → 1

Keyword Analysis II

Top keywords ($f \geq 50$)

R.	Keyword	f	R.	Keyword	f
1	transportation	336	30	climate change	66
2	accessibility	158	30	vehicles	66
3	traffic congestion	156	33	urban development	64
4	optimization	145	33	mode choice	64
5	urban planning	141	35	transportation policy	63
6	transportation planning	135	36	bus	61
7	sustainable development	132	37	decision making	60
8	transportation system	127	37	genetic algorithm	60
9	mobility	116	37	United Kingdom	60
10	traffic management	110	40	economics	59
11	sustainability	105	40	travel behavior	59
11	urban traffic	105	40	bus rapid transit	59
13	buses	103	43	commuting	58
14	urban areas	102	43	intelligent transportation systems	58
15	land use	99	45	intelligent systems	56
15	light rail transit	99	46	GPS	55
17	China	98	46	public transportation systems	55
18	travel time	97	46	evaluation	55
19	GIS	88	46	transport policy	55
19	planning	88	50	traffic engineering	54
21	transport	87	50	transportation development	54
22	United States	86	52	public transport systems	53
23	research	79	52	computer simulation	53
24	bus transportation	78	54	people movers	52
25	simulation	76	55	sustainable transport	51
26	traffic control	74	55	bus transport	51
27	motor transportation	69	57	walking	50
28	metropolitan area	67	57	surveys	50
28	transport planning	67	57	urban area	50
30	design	66			

Keyword Cluster I

Top keyword cluster of length 2 ($f \geq 15$)

R.	Keyword cluster		f
1	buses	bus transportation	27
2	cost effectiveness	multimodal transportation	21
4	transportation system	transportation planning	20
4	urban planning	United States	20
6	traffic management	traffic congestion	19
6	mass transit systems	light rail transit	19
8	intelligent systems	intelligent transportation systems	18
8	roads and streets	motor transportation	18
8	transportation system	traffic congestion	18
11	gas emissions	greenhouse gases	17
11	transportation planning	United States	17
11	urban planning	sustainable development	17
11	automation	people movers	17
11	transportation development	transportation system	17
16	mobility	accessibility	15
16	rapid transit	light rail transit	15
16	urban planning	urban development	15

Keyword Cluster II

Top keyword cluster of length 3 ($f \geq 5$)

R.	Keyword cluster			f
1	buses	bus transportation	bus stop	10
2	bus transport	transportation system	railway transport	9
3	people movers	light rail transit	automation	8
3	gas emissions	greenhouse gases	global warming	8
3	bus services	bus transportation	buses	8
3	carbon dioxide emissions	carbon dioxide	global warming	8
3	people movers	airports	international airport	8
3	bus terminals	bus stop	bus transportation	8
9	traffic congestion	motor transportation	roads and streets	7
9	automotive engineering	commercial vehicles	automobiles	7
9	road network	motor transportation	roads and streets	7
12	traffic control	motor transportation	road network	6
12	highway administration	motor transportation	roads and streets	6
12	bus transport	transportation system	transportation development	6
12	emission control	gas emissions	greenhouse gases	6
12	buses	bus transportation	travel time	6
12	buses	bus terminals	bus stop	6
18	urban development	metropolitan area	urban planning	5
18	public transportation networks	transportation routes	algorithms	5
18	traffic management	transportation system	traffic congestion	5
18	highway traffic control	intelligent transportation systems	intelligent systems	5
18	buses	bus transportation	traffic congestion	5
18	bus rapid transit	light rail transit	rapid transit	5
18	population densities	population statistics	economics	5
18	railway transport	transportation system	transportation development	5
18	traffic management	roads and streets	motor transportation	5
18	transportation planning	transportation infrastructure	transportation development	5
18	bus stop	arrival time	bus transportation	5
18	road transport	traffic congestion	traffic management	5
18	buses	bus transportation	bus route	5
18	transportation safety	transportation planning	road transport	5
18	bus transport	railway transport	transportation development	5

Conclusions

- In general, we see a trend and major research efforts to better integrate different problems and research disciplines allowing for system-wide improvement and innovations based on interdisciplinary and even transdisciplinary research activities

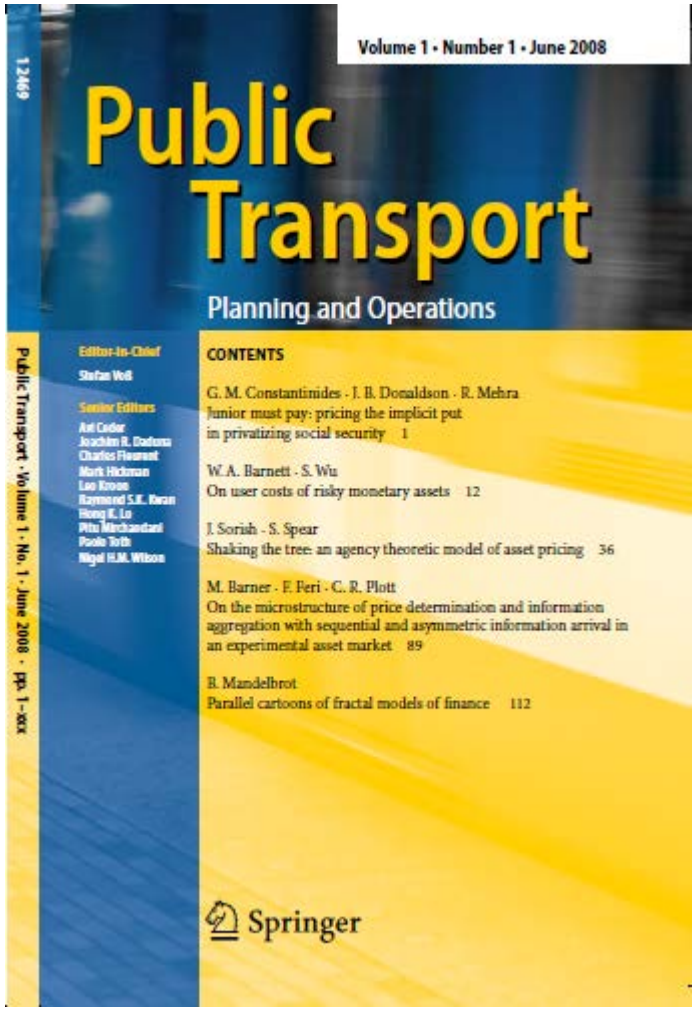
- Novel meta-perspective on public transport research that helps scholars and practitioners to get quick overview on important aspects, in particular important to:
  - Steer of individual projects
  - Extend research collaborations
  - Select a proper publication outlet
  - Get an overview on relevant and highly discussed topics
  - Analyze the development of the field in terms of productivity and impact

- Results represents a good starting point for academics and practitioners to identify the sources and concentration of the existing knowledge base

- This cannot be achieved by a structured literature review to that degree

Thank you for your attention.

Questions?



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