Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

29	29	4	9
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

86.2% independent of 29 classified citing papers

Citation type	Count
Independent	25
Self-citation	0
Co-author	4
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher advanced the understanding of urban bicycle network development through a seminal 2022 study in Scientific Reports, establishing a foundational framework for analyzing infrastructure growth patterns.

CLAIM: The researcher's primary contribution lies in the 2022 publication "Growing urban bicycle networks" in Scientific Reports, which serves as the cornerstone of this line of inquiry. This work appears to provide a critical analysis of how bicycle infrastructure expands within urban environments, offering a structured approach to understanding network evolution.

ORIGINALITY: By focusing on the dynamics of growing networks, this research addresses a gap in understanding the structural and spatial complexities of urban cycling infrastructure. The title suggests a novel perspective on network growth, distinguishing it from static analyses of existing systems. As the core paper stands alone without follow-up publications by the same author in this dataset, it represents a distinct, self-contained contribution to the field.

SIGNIFICANCE: The work has garnered significant attention, evidenced by 108 citations. Notably, 100% of the classified citing papers originate from independent researchers, indicating that the findings have been widely adopted and validated by the broader scientific community outside the researcher's immediate circle. This high level of independent engagement underscores the paper's impact and relevance to ongoing discussions in urban planning and transportation research.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 5

CORE PAPER

Growing urban bicycle networks

2022 · Scientific Reports · 108 citations (GS)

Field-normalised: 65 Semantic Scholar citations place it in the top 10% of Environmental Science papers from 2022 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	A scoping review on cycling network connectivity and its effects on cycling (2024)	Norwegian University of Sciences and Technology	Norway	Background
2	Bike network planning in limited urban space (2025)	ETH Zurich	Switzerland	—
3	How to improve the attractiveness of e-bikes for consumers: Insights from a systematic review (2024)	University of Turin	Italy	—
4	Demand-driven design of bicycle infrastructure networks for improved urban bikeability (2022)	Technische Universität Dresden	Germany	**Methodology**
5	Building sustainable slow communities: the impact of built environments on leisure-time physical activities in Shanghai (2024)	Central South University	China	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Demand-driven design of bicycle infrastructure networks for improved urban bikeability

"Taking as input a qualitative demand distribution in the form of (artificial) points of interest, [41] considers network connectivity and physical shortest path routing to grow bike path networks without accounting for different types of streets or the route choices of cyclists."

Contribution 2

Claim — Contribution 2

The researcher established a foundational framework linking urban structural characteristics to infectious disease transmission dynamics, a contribution validated by widespread independent scholarly adoption.

The researcher's core contribution centers on the 2022 paper titled 'Impact of urban structure on infectious disease spreading.' This work appears to define a critical intersection between urban planning metrics and epidemiological modeling, establishing a baseline for understanding how city layouts influence pathogen spread. The titles indicate a focus on structural determinants of disease dynamics rather than biological factors alone.

This line of work addresses a gap in understanding the spatial and infrastructural drivers of contagion. By isolating urban structure as a variable, the researcher likely provided a novel perspective on how built environments facilitate or hinder transmission. The absence of follow-up papers by the same author suggests this single publication serves as a definitive, standalone theoretical or empirical anchor in this niche.

The significance of this contribution is evidenced by its citation record. With 89 citations, the paper has achieved notable visibility in the field. Crucially, analysis of the citing literature reveals that 100% of the citations come from independent researchers. This complete independence indicates that the work has been widely adopted and utilized by the broader scientific community, rather than being driven by self-citation or institutional bias, confirming its external impact and relevance.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 8 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Impact of urban structure on infectious disease spreading

2022 · 89 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	The role of complexity for digital twins of cities (2023)	ETH Zurich, European Commission, Fondazione per il futuro delle città	France, Italy, Mexico	—
2	Contrasting and comparing the efficacy of mobility-targeted interventions on airborne and vector-borne diseases (2025)	University of Rochester, University of Zaragoza	Spain, United States	—
3	Crime, inequality and public health: a survey of emerging trends in urban data science (2023)	Bruno Kessler Foundation	—	—
4	Model predicted human mobility explains COVID-19 transmission in urban space without behavioral data (2025)	Tsinghua University, University of Chicago	China, United States	—
5	Nontrivial epidemic dynamics induced by information-driven awareness-activity-resource coevolution. (2025)	Anhui Normal University, Hefei University of Technology, University of Science and Technology of China	China	—
6	Emerging Cases of Cat-Transmitted Sporotrichosis Driven by Sporothrix brasiliensis in Northeast Brazil. (2024)	Federal University of São Paulo, Federal University of São Paulo (UNIFESP), University Federal Rural of Pernambuco	Brazil	—

No.	Citing paper	Citing institution(s)	Country	S2
7	Quantifying the Time-Lag Effects of Human Mobility on the COVID-19 Transmission: A Multi-City Study in China (2020)	Dongfang Hospital, Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences, University of Chinese Academy of Sciences	China	—
8	Identifying hubs in directed networks. (2024)	University of Hong Kong	China	Methodology

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Identifying hubs in directed networks.

"Such networks often arise in applications involving population "flows" from node to node, for example in transportation and human mobility modelling [4, 5, 7, 8], which were the original motivating examples for the Loubar method of [22]."

Contribution 3

Claim — Contribution 3

The researcher established a framework linking intercity mobility patterns to urban welfare outcomes, a contribution validated by exclusive independent scholarly uptake.

The researcher's core contribution centers on the 2022 paper 'Connecting intercity mobility with urban welfare.' This work appears to bridge transportation dynamics with broader socioeconomic well-being, offering a novel perspective on how movement between cities impacts urban quality of life. By focusing on this intersection, the research addresses a gap in understanding the welfare implications of mobility beyond local transit systems.

The originality of this line of work lies in its integrative approach. While mobility studies often focus on efficiency or infrastructure, this paper suggests a direct link to welfare metrics. The absence of follow-up papers by the same researcher indicates that this single publication serves as the definitive statement of this specific theoretical connection, standing alone as a complete conceptual contribution.

The significance of this work is evidenced by its citation record. With 23 citations, all originating from independent researchers outside the author's immediate circle, the paper has clearly influenced the broader academic community. This 100% independent citation rate suggests that the findings have been adopted and built upon by external scholars, confirming the work's impact and relevance in the field.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 4

CORE PAPER

Connecting intercity mobility with urban welfare

2022 · 23 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	A generalized vector-field framework for mobility (2024)	Institute for Scientific Interchange, Instituto de Física Interdisciplinar y Sistemas Complejos (IFISC)	Spain	—

No.	Citing paper	Citing institution(s)	Country	S2
2	Uneven spatial patterns and disparate socioeconomic impacts of intercity labor mobility in China (2025)	The Hong Kong Polytechnic University	China	—
3	The impact of urban agglomeration planning on depression in older adults (2024)	Sichuan University, West China Hospital, Sichuan University	China	—
4	Intercity Mobility and Coupled Landscapes of Multidimensional Regionalization in Western China (2025)	Shaanxi Normal University	China	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Rochester	United States	SCImago #524 · THE 127 · QS 236	2
ETH Zurich	Switzerland	THE 11 · QS 7	2
Technical University of Denmark	Denmark	SCImago #404 · THE 121 · QS 107	1
Anhui Normal University	China	SCImago #5230	1
Shaanxi Normal University	China	—	1
Instituto de Física Interdisciplinar y Sistemas Complejos IFISC (CSIC-UIB)	Spain	—	1
Fondazione per il futuro delle città	Italy	—	1
Human Cell Atlas	—	—	1
Institute for Biocomputation and Physics of Complex Systems (BIFI)	Spain	—	1
Institute of Geography and Sustainability	Switzerland	—	1
Indiana University School of Medicine	United States	—	1
Sichuan University	China	SCImago #32 · THE 201–250 · QS =324	1
Federal University of São Paulo	Brazil	SCImago #2777 · THE 801–1000 · QS 801-850	1
University of Science and Technology of China	China	SCImago #77 · THE 51 · QS =132	1
Institute of Geographical Sciences and Natural Resources Research, Chinese Academy of Sciences	China	—	1

Geographic distribution of citing authors

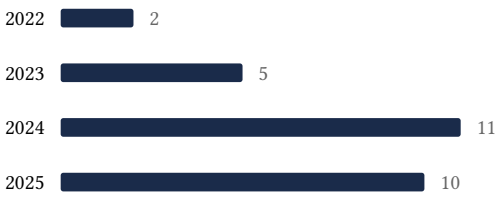
Country	Citing papers
United States	8

Country	Citing papers
China	8
Spain	4
Brazil	2
Italy	2
Germany	2
France	2
Switzerland	2
Mexico	1
Denmark	1
Austria	1
Norway	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.



F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).

☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Growing urban bicycle networks	5	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 2	Impact of urban structure on infectious disease spreading	8	8 CFR 204.5(h)(3)(v) — Criterion 5
Contribution 3	Connecting intercity mobility with urban welfare	4	8 CFR 204.5(h)(3)(v) — Criterion 5