

# ANDRÉ LUIZ CUNHA

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## PERSONAL DETAILS

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Dr. André Luiz Barbosa Nunes da Cunha  
Adjunct Professor, Department of Transport Engineering  
University of São Paulo (USP), São Carlos School of Engineering (EESC)  
São Carlos, São Paulo, Brazil

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## RESEARCH FOCUS

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- AI-driven traffic modeling for smart cities.
- Network vulnerability to extreme weather events.
- Data science applications in transport policy.

## EDUCATION

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- 1. Ph.D. in Transportation Engineering** Nov. 2013  
University of São Paulo (USP), São Carlos School of Engineering (EESC), Brazil  
*Thesis:* “Automatic system for vehicular traffic parameters using OpenCV”  
*Advisor:* Prof. José Reynaldo Anselmo Setti  
*DOI:* [10.11606/T.18.2013.tde-19112013-165611](https://doi.org/10.11606/T.18.2013.tde-19112013-165611)  
Funded by National Council for Scientific and Technological Development (CNPq), Brazil.
- 2. M.S. in Transportation Engineering** Oct. 2007  
University of São Paulo (USP), São Carlos School of Engineering (EESC), Brazil  
*Thesis:* “Evaluation of performance measurement impact on truck passenger car equivalents”  
*Advisor:* Prof. José Reynaldo Anselmo Setti  
*DOI:* [10.11606/D.18.2007.tde-27112007-094400](https://doi.org/10.11606/D.18.2007.tde-27112007-094400)  
Funded by National Council for Scientific and Technological Development (CNPq), Brazil.
- 3. B.S. in Civil Engineering** Feb. 2004  
Federal University of Mato Grosso do Sul (UFMS), Campo Grande, Brazil  
*GPA:* 3.79/4.00 → (9.5/10.0)

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<sup>1</sup><https://scholar.google.com.br/citations?user=HI0CQJMAAAAJ&hl=en>

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<sup>4</sup>[https://linktr.ee/prof\\_alcunha](https://linktr.ee/prof_alcunha)

# EXPERIENCE

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## Academic Appointments

1. **University of São Paulo (USP-EESC)** Jul. 2014 – present  
*Adjunct Professor (MS-3.2)*  
Full Dedication to Teaching and Research Regime (RDIDP)  
*São Carlos, Brazil*
2. **University of Zagreb (UNIZG)** Apr. 2022  
*Visiting Lecturer*  
ERASMUS+ Program: Virtual Teaching Mobility Agreement (Workload: 8h)  
*Zagreb, Croatia*
3. **University of Melbourne (UniMelb)** Jan. 2020 – Dec 2020  
*Visiting Professor*  
CAPES-Print Program – Junior Visiting Professor No. 88887.371506/2019-00  
*Melbourne, Australia*
4. **University of Zagreb (UNIZG)** Jun. 2018  
*Visiting Lecturer*  
ERASMUS+ Program: Higher Education Mobility Agreement (UNIZG/USP-EESC) (Workload: 13h)  
*Zagreb, Croatia*
5. **University of São Paulo (USP)** Sep. 2017  
*Visiting Professor*  
TUM-USP Workshop on Sustainable Mobility funded by BAYLAT/FAPESP Call  
*São Paulo, Brazil*
6. **University of Minho (UMINHO)** Jul. 2017  
*Visiting Professor*  
Mission funded by CAPES-FCT n. 39/2014  
*Guimarães, Portugal*
7. **Technical University of Munich (TUM)** Nov. 2016 – Dec. 2016  
*Visiting Professor*  
TUM-USP Workshop on Sustainable Mobility funded by BAYLAT/FAPESP Call  
*Munich, Germany*
8. **São Paulo State University (UNESP)** Mar. 2010 – Dec. 2010  
*Assistant Professor*  
Faculty of Engineering of Bauru (FEB), Civil Engineering undergraduate course.  
*Bauru, Brazil*
9. **University of São Paulo (USP-EESC)** Feb. 2009 – Jun. 2009  
*Graduate Assistant*  
*São Carlos, Brazil*
10. **University of São Paulo (USP-EESC)** Feb. 2006 – Jun. 2006  
*Graduate Assistant*  
*São Carlos, Brazil*

## Professional Experience

1. **Canhedo Beppu Engenheiros Associados Ltda** Jun. 2023 – Dec. 2023  
*Technical Consultant – Transportation Engineering Projects*  
Evaluated site conditions to determine optimal placement of truck escape ramps on Via Dutra's new descending lane, in Rio de Janeiro (BR-116 highway). Simulated operational scenarios to validate design effectiveness.  
*São Paulo, Brazil*
2. **ARTERIS Autopista Litoral Sul (ALS)** Nov. 2019 – Dec. 2019  
*Technical Consultant – Transportation Engineering Projects*  
Oversaw the execution of operational tests on the truck escape ramp at km 667 of BR-376 (Curitiba–Joinville corridor)<sup>5</sup>. Delivered a detailed technical assessment of ramp functionality under real-world conditions.  
*Curitiba, Brazil*

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<sup>5</sup>Interview featured on Rede Globo's Jornal Hoje program (<https://globoplay.globo.com/v/8165879/>).

3. **University of São Paulo (USP-EESC)** Feb. 2013 – Jun. 2014  
*Research Assistant (Laboratory Specialist)* São Carlos, Brazil  
 Develop scientific research in projects led by faculty, with didactic-scientific and extension focus.
4. **Técnicos em Transportes Ltda (TECTRA)** Apr. 2012 – Dec. 2012  
*Consultant in Transport Planning and Engineering* Belo Horizonte, Brazil  
 Led the development and integration of structured databases to support EPELT, the Transport Logistics Planning Office of the Minas Gerais State Secretariat.
5. **Institute of Mathematical and Computer Sciences (ICMC-USP)** Mar. 2012 – Apr. 2012  
*Civil Engineer* São Carlos, Brazil  
 Executed AutoCAD-based infrastructure digitization, oversaw routine building maintenance, and participated in the supervision of ongoing construction projects at ICMC.

## Teaching Experience

### Lecturer at University of São Paulo (USP)

#### Undergraduate

1. *STT0618 - Air Transport* 2014  
 4th year elective transport course in Civil Engineering curriculum. Designed the lecturers, exercise and lab sessions. Small classroom of 10+ students.
2. *STT0403 - Airports, Ports and Waterways* 2015–present  
 5th year compulsory transport course in Civil Engineering curriculum. Designed the lecturers and exercise sessions. Taught in classes of 50+ students.
3. *STT0408 - Fundamentals of Transportation Engineering* hfill 2015–present  
 3rd year compulsory transport course in Civil Engineering curriculum. Designed and delivered this core transport course, integrating lectures, exercises, and applied lab sessions. Taught classes of 50+ students using inverted classroom strategies and project-based learning, fostering active student engagement and applied problem-solving. The course received an average student rating of 4.5/5.0, reflecting strong satisfaction and engagement.
4. *STT0628 - Traffic Engineering and Road Traffic Simulation* hfill 2015–present  
 3rd year elective transport course in Civil Engineering curriculum. Designed the lecturers, exercise and lab sessions. Small classroom of 10+ students. Presents the fundamental theory of traffic simulation, while equipping students to apply concepts in practice and develop key technical skills.
5. *1800093 - Final Undergraduate Project* 2016–present  
 5th year compulsory transport course in Civil Engineering curriculum. My role involves supervising and guiding students through the development of their final engineering projects, with a focus on applying transport engineering concepts to real-world problems. I support students in defining research questions, conducting technical analyses, and producing professional-grade reports, while fostering independent learning and critical thinking. I have supervised 25+ projects in this course.
6. *STT0412 - Computational Tools Applied to Civil Engineering* hfill 2016–present  
 2nd year elective transport course in Civil Engineering curriculum. I designed and implemented this course to introduce students to computational thinking and practical toolsets for engineering problem-solving. The course encourages students to develop programming skills and apply digital tools—such as spreadsheets, CAD, GIS, and programming languages—to real-world challenges in civil and transport engineering. Small classroom of 20+ students.
7. *1800122 - Supervised Internship* 2019–present  
 5th year compulsory transport course in Civil Engineering curriculum. My role involves supervising and evaluating student internships conducted in professional engineering environments. I oversee each student's engagement with the host company, assess their performance, and ensure that the internship experience aligns with academic and professional learning objectives. I have supervised 15+ students.
8. *STT0610 - Logistics and Transportation* 2025–present  
 4th year elective transport course in Civil Engineering curriculum. Designed the lecturers and exercise sessions. Small classroom of 10+ students.

## Graduate

1. *STT5874 - Advanced Topics in Traffic Engineering* 2015–present  
Elective course in the Transportation Engineering Program. Coordinate the course, designed the lectures and lab sessions. Small classroom of 10+ students. Provides a foundation in traffic simulation theory and engages students in applying concepts through real-world scenarios and hands-on technical training.
2. *STT5898 - Applied Statistics for Transportation Engineering* 2015–present  
Elective course in the Transportation Engineering Program. Coordinate the course, designed the lectures and exercises. Small classroom of 15+ students. This course serves as a foundational milestone, equipping students with the core statistical methods required for graduate-level study and research.
3. *STT5900 - Multivariate Data Analysis Applied to Transportation Engineering* 2015–present  
Elective course in the Transportation Engineering Program. Coordinate the course, designed the lectures and exercises. Small classroom of 15+ students. Course introducing AI techniques using R—such as neural networks, clustering, PCA, decision trees, and genetic algorithms—applied to each student’s own dataset. The course culminates in the submission of an article presenting the dataset, methodology, and preliminary results.
4. *STT5859 - Transport Technology* 2016–present  
Compulsory course in the Transportation Engineering Program. This core course is jointly taught by four professors and provides a comprehensive foundation in transportation planning and operations. Designed for students at all levels, it offers a structured, level-based approach to essential concepts and methodologies in the field. Small classroom of 15+ students.
5. *STT5905 - Bibliographic Research for Transportation Systems Planning and Operation* hfill 2017–present  
Compulsory course in the Transportation Engineering Program. A core course that guides and encourages students to develop a comprehensive literature review, fostering critical analysis and familiarity with key academic sources in the field. Small classroom of 15+ students.
6. *STT5909 - Data Analysis Laboratory with Open-Source Software R* 2017  
Elective course in the Transportation Engineering Program. Coordinate the course, designed the lectures and exercises. Small classroom of 10+ students. This course was designed to provide a foundational introduction to R programming for solving transport engineering problems.

## Supervision

- **PhD Students:** 5 (1 completed, 4 ongoing)
- **MSc Students:** 16 (13 completed, 3 ongoing)
- **Scientific Initiation:** 16 (14 completed, 2 ongoing)
- **Undergraduate Projects:** 25 completed

## Research Income

I have secured over **\$ 1,7M (BRL)**  $\approx$  USD\$ since starting at USP as a Adjunct Professor 11 years ago.

1. **Rethinking traffic modeling in transport networks for the next generation of smart and connected cities** \$400,000  
Role: Principal Investigator 2023–2026  
Sponsor: CNPq Consolidated Research Groups - Process 409087/2023-8
2. **Artificial Intelligence: development of tools for urban mobility** \$400,000  
Role: Principal Investigator 2023–2026  
Sponsor: CNPq Research Productivity Grant - Process 311964/2022-2
3. **Innovative Control Strategies for Sustainable Mobility in Smart Cities** \$400,000  
Role: Co-Principal Investigator 2021–2021  
Sponsor: University of Zagreb

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| 4. <b>Image-based method for axle detection and truck classification</b>     | \$400,000 |
| Role: Principal Investigator   | 2018–2022 |
| Sponsor: CNPq Universal Grant - Process 436954/2018-4                        |           |
| 5. <b>Application of deep learning in intelligent traffic control system</b> | \$400,000 |
| Role: Co-Principal Investigator  | 2018–2018 |
| Sponsor: University of Zagreb (UNIZG)  |           |
| 6. <b>Studies aimed at promoting sustainable and safe urban mobility</b>     | \$400,000 |
| Role: Co-Principal Investigator  | 2013–2016 |
| Sponsor: CAPES/FCT Program No. 39/2017                                       |           |

## Publications

### Peer-Reviewed Journal

1. FLEURY, M.P.; KAMAKURA, G.K.; PITOMBO, C.S.; **CUNHA, A.L.B.N.**; FERREIRA, F.B.; LINS DA SILVA, J. Assessing and Predicting Geogrid Reduction Factors after Damage Induced by Dropping Recycled Aggregates. *Sustainability*. v.15, p.9942, 2023.  
<DOI: [10.3390/su15139942](https://doi.org/10.3390/su15139942)>
2. DE OLIVEIRA, G.J.M.; LAVIERI, P.S.; **CUNHA, A.L.** Integrating a non-gridded space representation into a graph neural networks model for citywide short-term crash risk prediction. *Urban Informatics*. v.2, p.7, 2023.  
<DOI: [10.1007/s44212-023-00032-6](https://doi.org/10.1007/s44212-023-00032-6)>
3. FLEURY, M.P.; KAMAKURA, G.K.; PITOMBO, C.S.; **CUNHA, A.L.B.N.**; LINS DA SILVA, J. Prediction of non-woven geotextiles' reduction factors for damage caused by the drop of backfill materials. *Geotextiles and Geomembranes*. v.1, p.1 - 11, 2023.  
<DOI: [10.1016/j.geotexmem.2023.05.004](https://doi.org/10.1016/j.geotexmem.2023.05.004)>
4. SILVA, F.A.E.; BESSA JUNIOR, J.E.; COSTA, A.L.; **CUNHA, A.L.**; VELHO, D.M.C.; ANDALÍCIO, A. Exploratory analysis of the VISSIM simulation model for two-lane highways. *Engenharia Civil UM (Braga)*, n.63, p.6-17, 2023.  
<DOI: [10.21814/ecum.4493](https://doi.org/10.21814/ecum.4493)>
5. SILVA, F.A.; BESSA JUNIOR, J.E.; COSTA, A.L.; **CUNHA, A.L.**; VELHO, D.M.C. Analysis of no-passing zones to assess the level of service on two-lane rural highways in Brazil. *Case Studies on Transport Policy*. v.10, p.248-256, 2022.  
<DOI: [10.1016/j.cstp.2021.12.006](https://doi.org/10.1016/j.cstp.2021.12.006)>
6. MORELLI, A. B.; **CUNHA, A.L.** Assessing vulnerabilities in transport networks: a graph-theoretic approach. *Transportes (Rio de Janeiro)*. v.29, p.161-172, 2021.  
<DOI: [10.14295/transportes.v29i1.2250](https://doi.org/10.14295/transportes.v29i1.2250)>
7. SILVA, F.A.; BESSA JÚNIOR, J.E.; COSTA, A.L.; **CUNHA, A.L.**; ANDALÍCIO, A.F.; DA COSTA VELHO, D.M.; NAZARETH, V.S. Evaluation of the effect of climbing lanes on segments of two-lane highways. *Transportes (Rio de Janeiro)*. v.29, p.1-16, 2021.  
<DOI: [10.14295/transportes.v29i1.2359](https://doi.org/10.14295/transportes.v29i1.2359)>
8. MORELLI, A.B.; **CUNHA, A.L.** Measuring urban road network vulnerability to extreme events: An application for urban floods. *Transportation Research Part D – Transport and Environment*. v.93, p.102770, 2021.  
<DOI: [10.1016/j.trd.2021.102770](https://doi.org/10.1016/j.trd.2021.102770)>
9. MARTINS, D.O.; OLIVEIRA, G.J.M.; MORAES, F.R.; SILVA, I.; **CUNHA, A.L.** Geomatics data management system. *Revista Brasileira de Geomática*. v.8, p.056-069, 2020.  
<DOI: [10.3895/rbgeo.v8n1.10141](https://doi.org/10.3895/rbgeo.v8n1.10141)>
10. PIANUCCI, M.N.; PITOMBO, C.S.; **CUNHA, A.L.**; LIMA SEGANTINE, P.C. Forecasting household travel demand through a sequential method based on synthetic population and artificial neural networks. *Transportes (Rio de Janeiro)*. v.27, p.1-23, 2019.  
<DOI: [10.14295/transportes.v27i4.1409](https://doi.org/10.14295/transportes.v27i4.1409)>

11. OLIVEIRA, J.V.M.; LAROCCA, A.P.C.; ARAUJO NETO, J.O.; **CUNHA, A.L.**; SANTOS, M.C.; SCHAAL, R.E. Rigid Bridges Health Dynamic Monitoring Using 100 Hz GPS Single-Frequency and Accelerometers. *Positioning*. v.10, p.17-33, 2019.  
<DOI: [10.4236/pos.2019.102002](https://doi.org/10.4236/pos.2019.102002)>
12. DE OLIVEIRA, J.V.M.; LAROCCA, A.P.C.; DE ARAÚJO NETO, J.O.; CUNHA, A.L.; DOS SANTOS, M.C.; SCHAAL, R.E. Vibration monitoring of a small concrete bridge using wavelet transforms on GPS data. *Journal Of Civil Structural Health Monitoring*. v.9, p.397-409, 2019.  
<DOI: [10.1007/s13349-019-00341-y](https://doi.org/10.1007/s13349-019-00341-y)>
13. LINDNER, A.; PITOMBO, C.S.; **CUNHA, A.L.** Estimating motorized travel mode choice using classifiers: An application for high-dimensional multicollinear data. *Travel Behaviour and Society*. v.6, p.100-109, 2017.  
<DOI: [10.1016/j.tbs.2016.08.003](https://doi.org/10.1016/j.tbs.2016.08.003)>
14. SOUZA, N.C.; PITOMBO, C.; **CUNHA, A.L.**; LAROCCA, A.P.C.; DE ALMEIDA FILHO, G.S. Model for classification of linear erosion processes along railways through decision tree algorithm and geotechnologies. *Boletim de Ciências Geodésicas*. v.23, p.72-86, 2017.  
<DOI: [10.1590/S1982-21702017000100005](https://doi.org/10.1590/S1982-21702017000100005)>
15. ANDRADE, G.R.; PITOMBO, C.; **CUNHA, A.L.N.**; SETTI, J.R. A Model for Estimating Free-Flow Speed on Brazilian Expressways. *Transportation Research Procedia*. v.15, p.378-388, 2016.  
<DOI: [10.1016/j.trpro.2016.06.032](https://doi.org/10.1016/j.trpro.2016.06.032)>
16. LAROCCA, A.P.C.; ARAÚJO NETO, J.O.; TRABANCO, J.L.A.; BARBOSA, A.C.B.; **CUNHA, A.L.B.N.**; SCHAAL, R.E. Use of 100 Hz GPS receivers in the detection of millimeter vertical deflections of small concrete bridges. *Boletim de Ciências Geodésicas*. v.21, p.290-307, 2015.  
<DOI: [10.1590/S1982-21702015000200017](https://doi.org/10.1590/S1982-21702015000200017)>
17. LAROCCA, A.P.C.; ARAUJO NETO, J.O.; BARBOSA, A.C.B.; TRABANCO, J.L.A.; **CUNHA, A.L.B.N.** Dynamic Monitoring vertical Deflection of Small Concrete Bridge Using Conventional Sensors And 100 Hz GPS Receivers - Preliminary Results. *IOSRJEN Journal of Engineering*. v.04, p.09-20, 2014.  
<DOI: [10.9790/3021-04920920](https://doi.org/10.9790/3021-04920920)>
18. **CUNHA, A.L.**; SETTI, J.R. Truck equivalence factors for divided, multilane highways in Brazil. *Procedia: Social and Behavioral Sciences*. v.16, p.248-258, 2011.  
<DOI: [10.1016/j.sbspro.2011.04.447](https://doi.org/10.1016/j.sbspro.2011.04.447)>

## Conference Proceedings

1. **CUNHA, A.L.B.N.**; SETTI, J.R. Calibration of the CORSIM truck performance model using a genetic algorithm. In: XX ANPET – Research and Teaching in Transport Congress, 2006, Brasília. *Proceedings of the XX ANPET*, v.I, p.88–99 – 2006.
2. BESSA JUNIOR, J.E.; LIMA, F.A.A.; **CUNHA, A.L.B.N.**; SETTI, J.R. Calibration of the Integration simulator's performance model using a genetic algorithm. In: XXII ANPET – Research and Teaching in Transport Congress, 2008, Fortaleza, CE. *Proceedings of the XXII ANPET – 2008*.
3. **CUNHA, A.L.B.N.**; MODOTTI, M.M.; SETTI, J.R. Truck classification through cluster analysis. In: XXII ANPET – Research and Teaching in Transport Congress, 2008, Fortaleza, CE. *Proceedings of the XXII ANPET – 2008*.
4. **CUNHA, A.L.B.N.**; SETTI, J.R. Equivalence factors for trucks on dual carriageway highways. In: 6th Brazilian Congress of Highways and Concessions – CBR&C, 2009, Florianópolis, SC. *Proceedings of the 6th CBR&C – 2009*.
5. BESSA JUNIOR, J.E.; **CUNHA, A.L.B.N.**; SETTI, J.R. Comparison between CORSIM and TWOPAS simulators for modeling two-lane highways. In: XXV ANPET – Research and Teaching in Transport Congress, 2011, Rio de Janeiro, RJ. *National Overview of Transport Research 2011*, p.2140–2151 – 2011.
6. **CUNHA, A.L.B.N.**; SETTI, J.R.; GONZAGA, A. Comparison of background generation models in vehicular traffic video processing. In: XXVII ANPET – Research and Teaching in Transport Congress, 2013, Belém. *Proceedings of the XXVII ANPET – 2013*.

7. ROCHA, S.S.; PIANUCCI, M.N.; PITOMBO, C.S.; **CUNHA, A.L.B.N.** Use of Neural Networks for trip production forecasting: an aggregate analysis. In: XXIX ANPET – Research and Teaching in Transport Congress, 2015, Ouro Preto, MG. Proceedings of the XXIX ANPET – 2015.
8. ANDRADE, G.R.; PITOMBO, C.S.; **CUNHA, A.L.B.N.**; SETTI, J.R.; FERRAZ, A.C.P. Forecasting free-flow speed on São Paulo expressways and highways. In: 9th Brazilian Congress of Highways and Concessions – CBR&C, 2015, Brasília. Proceedings of the 9th CBR&C – 2015.
9. RIBEIRO, E.R.; **CUNHA, A.L.** Exploratory analysis of a method for defining a typical day using Wavelet transform and cluster analysis. In: XXX ANPET – Research and Teaching in Transport Congress, 2016, Rio de Janeiro, RJ. Proceedings of the XXX ANPET – 2016.
10. THEBIT, M.M.; **CUNHA, A.L.**; PITOMBO, C.S. Relationship between bus mode supply and modal choice for airport access: a data mining approach. In: PLURIS – Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2016, Maceió. Proceedings of the 7th PLURIS – 2016.
11. FERREIRA, F.A.; PITOMBO, C.S.; **CUNHA, A.L.** Forecasting mode choice on a university campus using binomial logistic regression. In: PLURIS – Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2016, Maceió. Proceedings of the 7th PLURIS – 2016.
12. ASSIS, R.K.M.; DURAN, J.B.C.; **CUNHA, A.L.**; PITOMBO, C.S.; FERNANDES JUNIOR, J.L. Application of Artificial Neural Networks for predictive modeling of pavement functional classification. In: PLURIS – Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2016, Maceió. Proceedings of the 7th PLURIS – 2016.
13. OLIVEIRA, G.J.M.; **CUNHA, A.L.** HCM calibration method for dual carriageways and expressways using Bayesian inference. In: XXXI ANPET – Research and Teaching in Transport Congress, 2017, Recife. Proceedings of the XXXI ANPET – 2017.
14. PANICE, N.R.; **CUNHA, A.L.** Evaluation of a method for automatic truck axle detection in images. In: XXXI ANPET – Research and Teaching in Transport Congress, 2017, Recife. Proceedings of the XXXI ANPET – 2017.
15. RIBEIRO, E.R.; **CUNHA, A.L.** Exploratory analysis of a method for anomaly detection in traffic data using Wavelet. In: XXXI ANPET – Research and Teaching in Transport Congress, 2017, Recife. Proceedings of the XXXI ANPET – 2017.
16. THEBIT, M.M.; **CUNHA, A.L.** Comparison of traffic data available on the web and obtained by fixed sensors. In: XXXI ANPET, 2017, Recife. Proceedings of XXXI ANPET – 2017.
17. MORELLI, A.B.; **CUNHA, A.L.** Methods for evaluating traffic conditions using Google Traffic and Twitter data. In: XXXII ANPET, 2018, Gramado, RS. Proceedings of XXXII ANPET – 2018.
18. KURAMOTO, B.; **CUNHA, A.L.** Methodological proposal for construction and analysis of a real urban network. In: PLURIS – 8th Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2018, Coimbra. Proceedings of the 8th PLURIS – 2018.
19. MORELLI, A.B.; **CUNHA, A.L.** A strategy for assessing the impact of flooding on urban road systems. In: XXXIII ANPET – Research and Teaching in Transport Congress, 2019, Balneário Camboriú. Proceedings of the XXXIII ANPET – 2019.
20. MARCOMINI, L.A.; **CUNHA, A.L.** The impact of different video resolutions in a feature-based vehicle detection algorithm. In: XXXIII ANPET, 2019, Balneário Camboriú. Proceedings of XXXIII ANPET – 2019.
21. SILVA, F.A.E.; BESSA JUNIOR, J.E.; COSTA, A.L.; **CUNHA, A.L.**; ANDALICIO, A.F.; VELHO, D.M.C.; NAZARETH, V.S. Evaluation of the effect of climbing lanes on single-lane highway segments. In: XXXIII ANPET – Research and Teaching in Transport Congress, 2019, Balneário Camboriú. Proceedings of the XXXIII ANPET – 2019.
22. KURAMOTO, B.; **CUNHA, A.L.** Usability and limitations of collaborative map data in accessibility analysis. In: XXXIII ANPET – Research and Teaching in Transport Congress, 2019, Balneário Camboriú. Proceedings of the XXXIII ANPET – 2019.
23. MORELLI, A.B.; **CUNHA, A.L.** Identifying vulnerabilities in transport networks: a graph-theoretical approach. In: XXXIII ANPET – Research and Teaching in Transport Congress, 2019, Balneário Camboriú. Proceedings of the XXXIII ANPET – 2019.

24. CAKIJA, D.; ASSIRATI, L.; IVANJKO, E.; **CUNHA, A.L.** Autonomous Intersection Management: A Short Review. In: 61st International Symposium ELMAR-2019, Zadar. Proceedings of the 61st ELMAR Symposium – 2019.
25. VIZIOLI, H.T.; KUŠIĆ, K.; IVANJKO, E.; **CUNHA, A.L.** A method to calibrate Variable Speed Limit Control on high-truck-share roads: a case study in Brazil. In: Brazilian Technology Symposium - BTSym'20, 2020, Campinas. Smart Innovation, Systems and Technologies – 2020.
26. BOSCO JUNIOR, A.D.; **CUNHA, A.L.** Street and zonal scale relationship between network centrality and economic activities: case study in Curitiba, Brazil. In: PLURIS – Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2020. Proceedings of the 9th PLURIS – 2020.
27. OLIVATTO, T.F.; PITOMBO, C.S.; **CUNHA, A.L.**; MELANDA, E.A. Relationships between the nutritional status of preschoolers and socioeconomic and urban infrastructure indicators: a CART-based approach. In: PLURIS – Luso-Brazilian Congress on Urban, Regional, Integrated and Sustainable Planning, 2020. Proceedings of the 9th PLURIS – 2020.
28. MORELLI, A.B.; **CUNHA, A.L.** Pedestrian accessibility: impacts of morphological and demographic characteristics on access to facilities. In: XXXV ANPET – Research and Teaching in Transport Congress, 2021. Proceedings of the XXXV ANPET – 2021.
29. MORELLI, A.B.; LOURO, T.V.; **CUNHA, A.L.** Proposal of bikeability indicators from an accessibility perspective: identifying roads best suited for cycle lanes using widely available data. In: XXXVI ANPET – Research and Teaching in Transport Congress, 2022, Fortaleza. Proceedings of the XXXVI ANPET – 2022.
30. MARCOMINI, L.A.; **CUNHA, A.L.** Truck axle detection using Neural Networks: analysis of the number of images in the training dataset. In: ANPET – Research and Teaching in Transport Congress, 2023, Santos. Proceedings of the 37th ANPET – 2023.
31. MORELLI, A.B.; **CUNHA, A.L.** Vulnerability to flooding: how long-trip prevalence reduces the efficiency of alternative routes. In: XXXVIII ANPET – Research and Teaching in Transport Congress, 2024, Florianópolis. Proceedings of the 38th ANPET – 2024.

## Awards & Honors

- **ANPET Scientific Production Award** 2023  
National Agency for Transportation Research and Education (ANPET).
- **Excellence Certificate** 2017  
Best professor of the Department of Transportation Engineering (USP-EESC-STT), SACivil - Academic Secretariat of Civil Engineering.
- **Excellence Certificate** 2016  
Best professor of the Department of Transportation Engineering (USP-EESC-STT), SACivil - Academic Secretariat of Civil Engineering.
- **ABCR Innovation Salon Award** 2015  
9th Brazilian Congress on Highways and Concessions (CBR&C), 5th Innovation Salon of the Brazilian Association of Highway Concessionaires (ABCR).

## Professional Services

## Technical Skills

## Languages