

HUMAN-CENTERED TRANSPORTATION EDUCATION AT THE UNIVERSITY OF COLORADO DENVER



Denver



The **Human-Centered Transportation** Master's & PhD programs at CU Denver offer a unique opportunity for students to focus on:

Healthy Active Communities, **Equitable Road Safety**, or **Smart Sustainable Mobility**

while also gaining a strong foundation in the fundamentals of transportation engineering and planning.

Our core degree programs in **Civil Engineering** and/or **Urban & Regional Planning** emphasize the importance of incorporating a human-centered approach in the design and planning of transportation systems, making them an ideal choice for those seeking to make a positive impact on the world.

Making such an impact will require transportation professionals of diverse academic and cultural backgrounds. Prospective students **do not** need a background in engineering nor planning to be a good candidate for any of the following graduate-level transportation degrees:



College of Engineering, Design and Computing

UNIVERSITY OF COLORADO DENVER

Civil Engineering Graduate Degrees:

- Master of Science (MS)
- Master of Engineering (MEng)
- PhD in Civil Engineering (Civil PhD)
- PhD in Engineering & Applied Science (EASPhD)

Note: The MS & Civil PhD are intended for students with a Civil Engineering background. The MEng & EASPhD welcome students from all academic backgrounds.



College of Architecture and Planning

UNIVERSITY OF COLORADO DENVER

Urban and Regional Planning Graduate Degrees:

- Master of Urban and Regional Planning (MURP)
- PhD in Geography, Planning, and Design

We also offer a **dual** Master of Engineering + Master of Urban and Regional Planning (MEng + MURP) for 15 fewer credits than the separate degrees would entail.

We welcome students interested in transportation from various fields such as Public Policy, Public Health, Computer Science, Geography, Anthropology, Electrical Engineering, or Mechanical Engineering.

After taking at least two of four foundational courses, students can delve deeper into a core area:

- For students interested in **Healthy Active Communities**, coursework will cover topics such as the design and planning of walking and bicycling infrastructure, the promotion of active travel choices, and the integration of such infrastructure into transportation networks.
- For those interested in **Equitable Road Safety**, coursework will focus on the development of safe transportation systems, the analysis of road safety data, and the implementation of road safety policies and programs.
- In the **Smart Sustainable Mobility** track, students will learn about the integration of advanced technologies into transportation systems, transportation demand management, and intelligent transportation systems.



DENVER

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BUILDING THE LYNX™ BETWEEN PEOPLE & PLACES

HUMAN-CENTERED TRANSPORTATION EDUCATION AT THE UNIVERSITY OF COLORADO DENVER

Our program offers a blend of foundational courses that provide students with a broad understanding of the principles of human-centered transportation engineering and planning, as well as skill courses in **Design; Data Science and GIS**; as well as **Communication and Community Building**. These courses provide students with the technical knowledge and skills necessary to succeed in their chosen area. For added flexibility, the program offers a wide range of elective courses to support the unique goals and aspirations of individual students.

So regardless of the degree program you choose, we recommend at least two out of the following foundational courses specifically built for cross-disciplinary students:

- CVEN 5633 / URPL 6599: Sustainable Transportation & How to Argue with a Traffic Engineer
- URPL 6555 / CVEN XXXX: Transportation Planning & Policy
- URPL XXXX / CVEN XXXX: Past, Present, and Future of the Transportation Profession & Methods
- CVEN XXXX / URPL XXXX: Human-Centered Transportation Seminar Series

Students can then select one of the following core areas, each with a 2-course series. Successful completion of any core area will result in a Microcredential, and Microcredentials can be stacked.

Healthy Active Communities

- URPL 6560: Pedestrian & Bicyclist Planning
- CVEN 5642: Transit System Planning & Design

Equitable Road Safety

- CVEN 5662 / URPL XXXX: Transportation System Safety
- CVEN 5611: Transportation Safety Statistics

Smart Sustainable Mobility

- URPL 6299 / CVEN 5800: Introduction to Smart Cities
- CVEN XXXX: Technology & Human Factors

To further support your transportation career, we strongly advise students to add one or more of the following skills, via our multiple course offerings in:

Communication & Community Building

Data Science & GIS

Design

Then, to ensure a comprehensive education, our degree programs provide enough flexibility for students to select from a variety of elective courses in engineering, planning, public policy, economics, and public health. Examples include:

- CVEN 5602: Adv. Street & Highway Design
- CVEN 5612: Traffic Impact Assessment
- CVEN 5613: Traffic Simulation Modeling
- CVEN 5621: Highway Capacity Analysis
- CVEN 5622: Traffic Operations & Control
- CVEN 5631: Transport Modeling & Big Data
- CVEN 5632: Adv. Transport Modeling
- CVEN 5642: Transit Operations
- CVEN 5650: Urban Street Design
- CVEN XXXX: Active Transportation Design
- CVEN 5460: Sustainable Urban Infrastructure
- CVEN 5800: GIS for Transportation

- URPL 5000: Planning History & Theory
- URPL 5010: Planning Methods
- URPL 5050: Urban Development
- URPL 5080: Adv. Methods & Analysis for Planning
- URPL 6205: Plan Making
- URPL 6210: Planning Engagement
- URPL 6225: Urban Policy Analytics
- URPL 6250: GIS for Urban Planning
- URPL 6265: Visualization for Planning
- URPL 6350: City Design Fundamentals
- URPL 6397: Design Policy, Process & Regulation
- URPL 6600: Regional Growth & Equity

The MS and MEng degree programs culminate with a thesis or master's report. The MURP degree program does so with a thesis or capstone project. Dual Degree students complete a six-credit combined capstone project/thesis or master's report. Dual degree students will have faculty advisors/committee members from both Engineering and Urban & Regional Planning and concurrently register for credits in both departments.



University of Colorado **Denver**

