Analysis of available online training on sustainable urban mobility in English and Spanish

Mobilise Your City

Euroclima+

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EUROCLIMA+ and MobiliseYourCity

Community of Practice on Sustainable Urban Mobility in Latin America

Analysis of available online training on sustainable urban mobility in English and Spanish

Final report

Contents

1. Introduction

This document presents the findings of the analysis of available online training on sustainable urban mobility in English and Spanish, part of the Component 3 *"Training (E-learning)"* of Asociación Sustentar's proposal to strengthen the existing Community of Practice on Sustainable Urban Mobility in Latin America of Euroclima+ and Mobilise Your City. The purpose of this mapping is to identify the existing online training offer on sustainable urban mobility topics in both languages, with the goal of identifying training gaps that can inform the development of new training material for Latin America.

2. Methodological approach

We identified e-learning courses on sustainable urban mobility, in English and Spanish, based on:

- Asociación Sustentar team's previous knowledge of existing e-courses and training materials on sustainable urban mobility topics throughout platforms and networks related to sustainable mobility

- The identification of organizations and initiatives that offer training services, through the *Mapping of organizations and initiatives promoting sustainable urban Mobility in Latin America* carried out by Asociación Sustentar as part of Component 1

- The search for courses under the keywords "transport", "transportation" and "mobility" (both in English and Spanish) on the most popular e-learning platforms

- The search for courses on Google under the same keywords

The following aspects were collected from the trainings' websites and registered in the document *Mapeo de oferta de capacitación | Training offer mapping*:

- Name of the training

- Link to the website

- Taught by

- Platform

- Topic

- Description

- Modality

- Audience

- Duration

- Cost

3. Analysis

3.1. Mapping scope

As of July 2021, **210 courses** on sustainable mobility topics **were identified and processed**, of which **166 are in English and 44 in Spanish** (Figure 1).
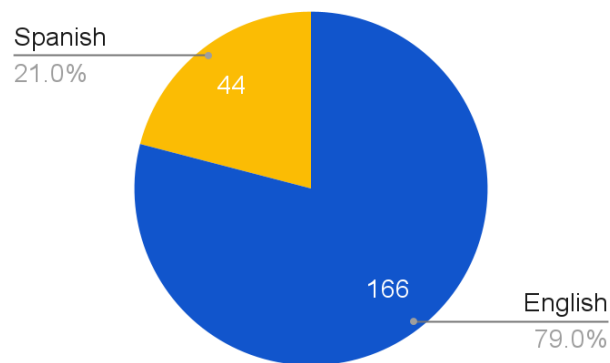

Figure 1. Identified courses by language

3.2. Implementing actors

Identified courses are developed and implemented by several actors: **universities, organizations and initiatives working on the promotion of sustainable mobility, development banks, public transport operators, individual instructors, and combinations of some of them** - all of which are detailed in Table 1. The **actors implementing the courses in English and Spanish are different, with the exception of six** (highlighted in gray in Table 1): **the Delft University of Technology (TU Delft), the International Association of Public Transport (UITP), the United Nations (UN), the SOLUTIONSplus Project, the Inter-American Development Bank (IDB), and the World Bank (WB).**

Table 1. Actors involved in the implementation of courses on sustainable mobility

Type	Courses in English	Courses in Spanish
Universities and academic organizations	- Alpha Academy (England) - Coventry University (England) - Delft University of Technology (TU Delft) (Netherlands) - UN International Training Centres for Local Authorities and Local Actors Jeju (CIFAL JEJU) - UN International Training Centres for Local Authorities and Local Actors Madrid (CIFAL Madrid) - École des Ponts ParisTech (France) - École polytechnique fédérale de Lausanne (EPFL) (Switzerland) - KTH Royal Institute of Technology (Sweden) - Massachusetts Institute of Technology (MIT) (U.S.) - Politecnico de Milano (Italy) - RWTH Aachen University (Germany) - University College London (England) - University of Amsterdam (Netherlands) - University of Leeds (England) - University of Pennsylvania (U.S.)	- International Training Centre for Local Authorities and Local Actors Madrid (CIFAL Madrid) - Delft University of Technology (TU Delft) (Netherlands) - Pontificia Universidad Católica de Chile - Instituto Superior del Medio Ambiente (Spain) - Instituto de Movilidad (Spain) - Universidad Nebrija (Spain) - Universidad Hemisferios (Ecuador) - Universidad Torcuato Di Tella (Argentina) - IMF Smart Education (Spain)
Organizations working on the promotion of sustainable mobility	- Bicycle User Experience (Netherlands) Cenex (UK's first Centre of Excellence for Low Carbon and Fuel Cell technologies) - Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH - Humankind (Netherlands) - International Association of Public Transport (UITP) - National Center for Mobility Management (NCMM) - Shared-Use Mobility Center - Singapore Land Transport Authority (LTA) - TechnologieRegion Karlsruhe - United Nations (UN)	- Asociación de Emprendedores para el Desarrollo e Impulso del Vehículo Eléctrico en Perú (AEDIVE) - Asociación Mundial de la Carretera (PIARC) - Fundación EMTUS (Venezuela) - Fundación Gonzalo Rodriguez (FGR) - Geoinnova (Spain) - International Association of Public Transport (UITP) - Invest in Latam - Lincoln Institute of Land Policy - Organización Latinoamericana de Energía (OLADE) - Portal Movilidad - Sustainablearth Latam (Perú) - United Nations (UN)

Table 1 (continues). Actors involved in the implementation of courses on sustainable mobility

Type	Courses in English	Courses in Spanish
Initiatives working on the promotion of sustainable mobility	- CH4LLENGE project* - CIVITAS* - European Bus Systems of the Future 2 project (EBSF 2)* - European Institute of Innovation and Technology (EIT) Urban Mobility initiative - European Smart Move project* - FLOW project (Furthering Less Congestion by Creating Opportunities For More Walking and Cycling)* - Meeting of the Minds - SOLUTIONS Project* - SOLUTIONSplus Project - SUMI Project* - SWITCH Project* - Transformative Urban Mobility Init. (TUMI) - Transport Innovation Deployment for Europe (TIDE) Project* - UN Road Safety Learning Partnership - UN Road Safety Partnership for Action - UN Safe Cities and Safe Public Spaces Global Initiative	- EUROCLIMA+ - Mujeres en Movimiento (MEM) - Latam Mobility - SOLUTIONSplus Project - UN Road Safety Partnership for Action
Development banks	- Inter-American Development Bank (IDB) - World Bank	- Inter-American Dev. Bank (IDB) - Dev. Bank of Latin America (CAF) - World Bank
Public transport operators	- Shenzhen Bus Group (China) - Transdev (Portugal)	- Consorcio Transportes Madrid (Spain) - Metro de Santiago (Chile)

*Initiatives that implemented courses in the past, being the course material still available online

Of the <u>courses available in English</u>, 44% were developed by initiatives[1] and 21% by single organizations promoting sustainable mobility (Figure 2). The European initiative CIVITAS and European Institute of Innovation and Technology (EIT) Urban Mobility initiative, followed by

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[1] Many of the initiatives delivered the courses in the past, with the course material still available online. Indicated with an * in Table 1.

the American organization Shared-Use Mobility Center, are the ones that developed the highest number of courses in English (32, 16 and 14 courses respectively) (Figure 3). Also, **13% of the courses were developed by individual instructors with experience on the topic (Figure 2),** mostly related to American universities and oriented towards American planning practitioners.
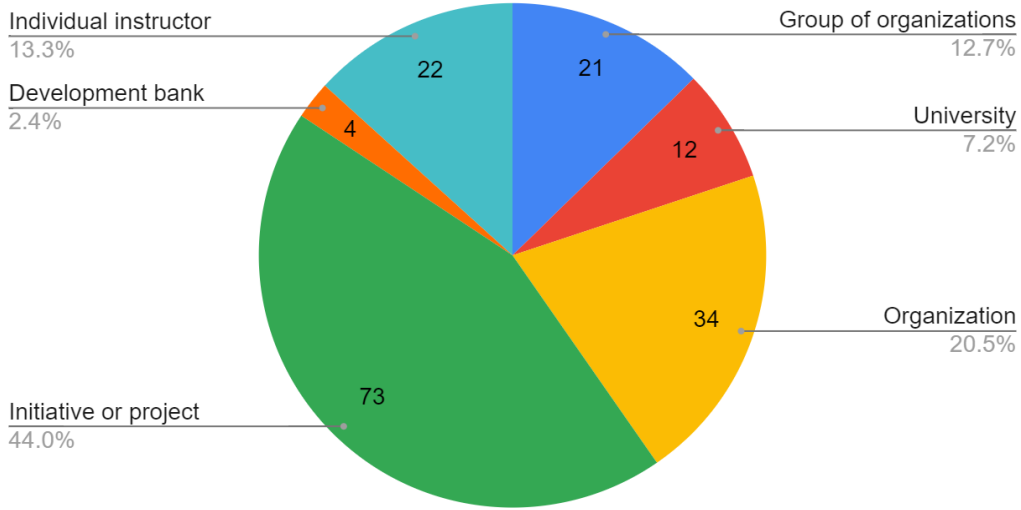
Courses in English

Figure 2. Actors implementing courses in English
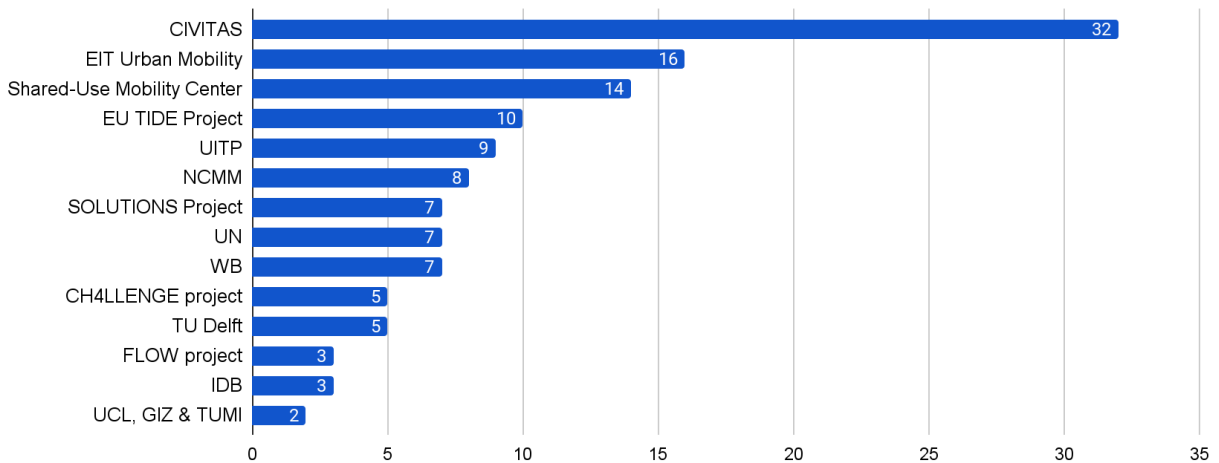
Courses in English

Figure 3. Actors that implement or implemented 2 or more courses in English[2]

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[2] Figure 3 does not include individual instructors nor actors that implement or implemented only one course.

On the other hand, **36% of the <u>courses available in Spanish</u> were developed by universities or academic institutions, 25% by single organizations, 16% by groups of organizations and 16% by initiatives promoting sustainable mobility (Figure 4). The Spanish Instituto de Movilidad, the Latinamerican Fundación Gonzalo Rodríguez (FGR), the dutch Delft University of Technology, and the EUROCLIMA+ programme are the ones that developed the highest number of courses in Spanish (5 and 4 courses respectively) (Figure 5)**.
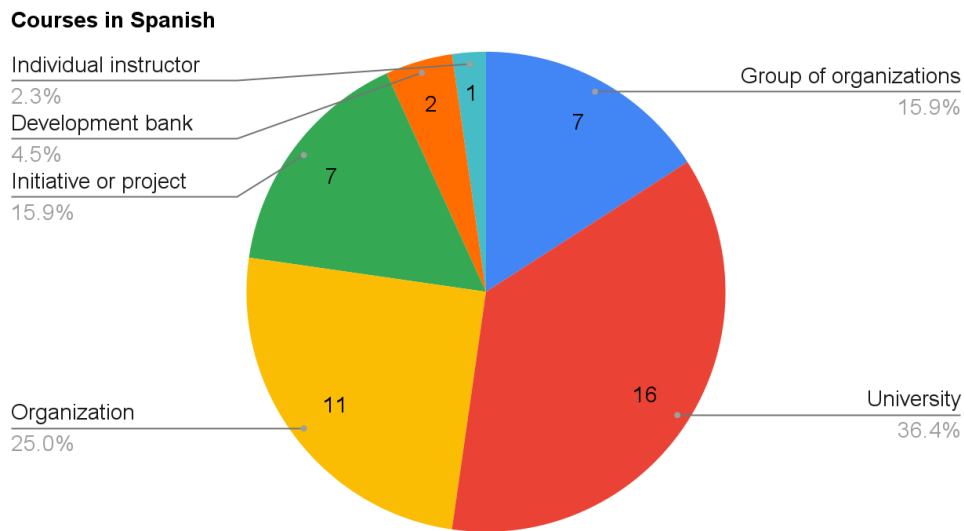

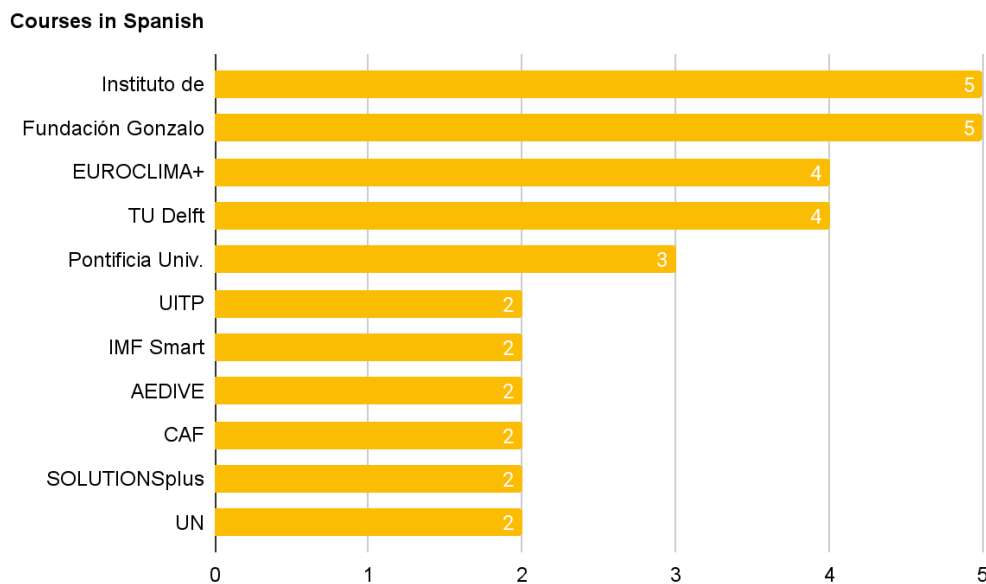**Figure 4. Actors implementing courses in Spanish**

Figure 5. Actors that implement or implemented 2 or more courses in Spanish

Latin American actors developing courses in Spanish (highlighted in orange in Table 1) **include the universities Pontificia Universidad Católica de Chile, Universidad Hemisferios (Ecuador) and Universidad Torcuato Di Tella (Argentina); the organizations Asociación de Emprendedores para el Desarrollo e Impulso del Vehículo Eléctrico en Perú (AEDIVE), Fundación EMTUS (Venezuela), Fundación Gonzalo Rodriguez (FGR), Invest in Latam, Organización Latinoamericana de Energía (OLADE), Portal Movilidad and Sustainablearth Latam (Perú); the initiatives Mujeres en Movimiento and Latam Mobility; the public transport operator Metro de Santiago (Chile); and the development banks IDB and CAF.**

3.3. E-learning platforms

Courses in English are available in 16 e-learning platforms, and courses in Spanish are available in 10 e-learning platforms. Seven platforms host courses in both languages, nine platforms host courses only in English, and three platforms host courses only in Spanish (Table 2).

Table 2. Platforms hosting courses in English, Spanish and both

Courses in both languages	Courses in English only	Courses in Spanish only
7 platforms	9 platforms	3 platforms
- CIFAL Madrid's virtual campus - Coursera - edX - Mobility Academy - Open Learning Campus (OLC) by the World Bank - Udemy - United Nations Institute for Training and Research (UNITAR)	- CIVITAS Learning Centre - EIT Urban Mobility Training Platform - FutureLearn - LinkedIn Learning - Mobility on Demand Learning Center - National Center for Mobility Management (NCMM) - Planetizen - Politecnico de Milano Moodle - Urban Mobility Courses	- FGR Campus - Lincoln Institute - Miriadax

Mobility Academy is the platform that hosts the highest numbers of courses in English (44 courses), followed by Planetizen (20 courses) and the CIVITAS Learning Centre (19 courses) (Figure 6)**. For courses in Spanish, the platforms with more courses are edX, FGR Campus, and Mobility Academy (5 and 4 courses respectively)** (Figure 7).

Courses in English

Udemy 1.8%
Coursera 1.8%
FutureLearn 3.6%
WB OLC 3.6%
UNITAR 3.6%
NCMM 4.8%
EIT Urban Mobility Train… 4.8%
N/A 5.4%
edX 7.8%
MOD Learning Center 8.4%

Mobility Academy 26.5% — 44
Planetizen 12.0% — 20
CIVITAS Learning Centre 11.4% — 19

3 3 3 6 6 6 8 8 9 13 14
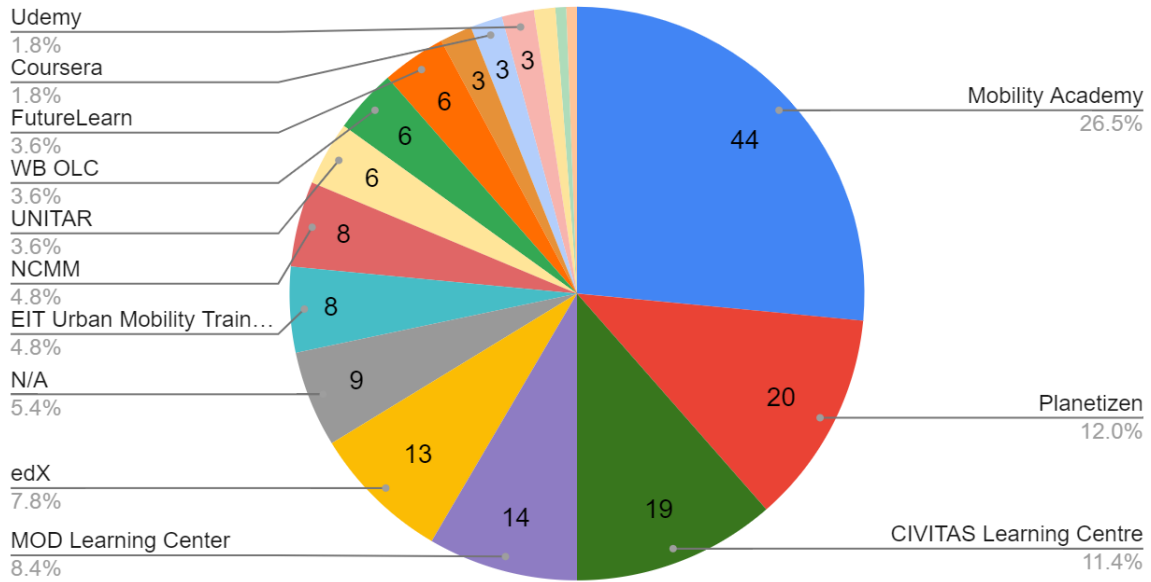
Figure 6. Platforms hosting courses in English

Courses in Spanish

Lincoln Institute 2.3%
WB OLC 4.5%
Miriadax 4.5%
Coursera 6.8%
Mobility Academy 9.1%
FGR Campus 11.4%

N/A 43.2% — 19
edX 11.4% — 5
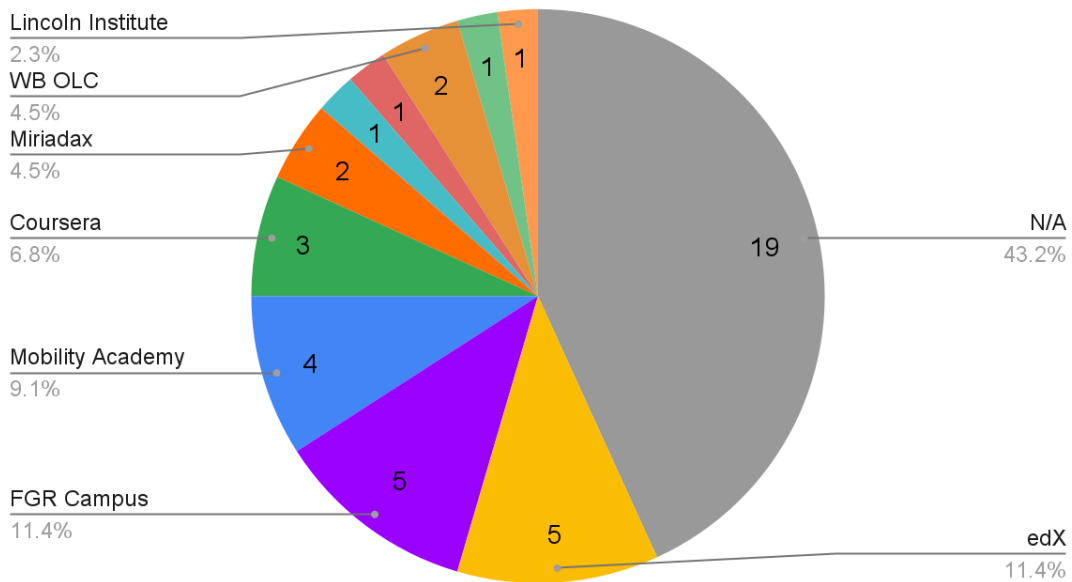
1 1 1 1 2 2 3 4 5

Figure 7. Platforms hosting courses in Spanish

Table 3 details the actors using each platform. **Mobility Academy, Planetizen and edX are the platforms with more linkages to different actors**. As Figures 6 and 7 show, some actors did not specify the platform they use for training-delivery, and they are detailed in Table 4.

Table 3. Relationships between actors and platforms

Platform	Courses in English implemented by	Courses in Spanish implemented by
Mobility Academy	- CH4LLENGE project - CIVITAS - European Bus Systems of the Future 2 project (EBSF 2) - European Smart Move project - FLOW project (Furthering Less Congestion by Creating Opportunities For More Walking and Cycling) - SOLUTIONS Project - SOLUTIONSplus Project - SUMI Project - SWITCH Project - Transport Innovation Deployment for Europe (TIDE) Project	- EUROCLIMA+
Planetizen	- 9 individual instructors	------------------------
CIVITAS Learning Centre	- CIVITAS	------------------------
MOD Learning Center	- Shared-Use Mobility Center	------------------------
edX	- Delft University of Technology (TU Delft) - École polytechnique fédérale de Lausanne (EPFL) (Switzerland) - Inter-American Development Bank (IDB) - Massachusetts Institute of Technology (MIT) (United States) - RWTH Aachen University - University of Pennsylvania - World Bank Group	- Delft University of Technology - Inter-American Development Bank (IDB)

Table 3 (continues). Relationships between actors and platforms

Platform	Courses in English implemented by	Courses in Spanish implemented by
UNITAR	- United Nations - International Training Centres for Local Authorities and Local Actors Jeju (CIFAL JEJU) - UN Road Safety Learning Partnership - UN Road Safety Partnership for Action	- United Nations - UN Road Safety Partnership for Action
WB OLC	- World Bank - UN Safe Cities and Safe Public Spaces Global Initiative	- World Bank
FutureLearn	- Coventry University - Cenex (UK's first Centre of Excellence for Low Carbon and Fuel Cell technologies) - European Institute of Innovation and Technology (EIT) Urban Mobility initiative, KTH Royal Institute of Technology & KTH Executive School - University College London, GIZ & TUMI - University of Leeds	-----------------------
Coursera	- École des Ponts ParisTech - University of Amsterdam & European Institute of Innovation and Technology (EIT) Urban Mobility initiative	- Pontificia Universidad Católica de Chile
Udemy	- Alpha Academy - Meeting of the Minds - Individual instructor	- Individual instructor
CIFAL Madrid	- UN Road Safety Learning Partnership	- UN Road Safety Learning Partnership
LinkedInLearning	- Individual instructors	-----------------------
Miriadax	-----------------------	- Development Bank of Latin America (CAF) and Asociación Mundial de la Carretera (PIARC)
NCMM	- National Center for Mobility Management	

Table 3 (continues). Relationships between actors and platforms

Platform	Courses in English implemented by	Courses in Spanish implemented by
FGR Campus	-----------------------	Fundación Gonzalo Rodriguez (FGR)
Lincoln Institute	-----------------------	Lincoln Institute
EIT Urban Mobility Training Platform	- European Institute of Innovation and Technology (EIT) Urban Mobility initiative	-----------------------
Urban Mobility Courses	- European Institute of Innovation and Technology (EIT) Urban Mobility initiative and Humankind - European Institute of Innovation and Technology (EIT) Urban Mobility initiative and Bicycle User Experience	-----------------------
Politecnico de Milano Moodle	- European Institute of Innovation and Technology (EIT) Urban Mobility initiative and Politecnico de Milano	-----------------------

Table 4. Actors that do not specify the platform used for course delivery

Courses in English implemented by	Courses in Spanish implemented by

- International Association of Public Transport (UITP) in association with:
    - Shenzhen Bus Group
    - Transdev
    - LTA Singapore
    - TechnologieRegion Karlsruhe
	- International Association of Public Transport (UITP) in association with:
	    - Consorcio Transportes Madrid
	    - Metro de Santiago
	- Geoinnova (Spain)
	- Instituto Superior del Medio Ambiente (Spain)
	- Instituto de Movilidad
	- IMF Smart Education in association with:
	    - Universidad Nebrija
	    - Universidad Hemisferios
	- Mujeres en Movimiento (MEM)
	- SOLUTIONSplus Project

3.4. Target audiences

All available courses target transport professionals in general, and some of them are also oriented to specific audiences. Among these, **city planners stand out, followed by planning authorities.** To a lesser extent, **public transport operators and other stakeholders operating within the urban mobility sector** (Figure 8).
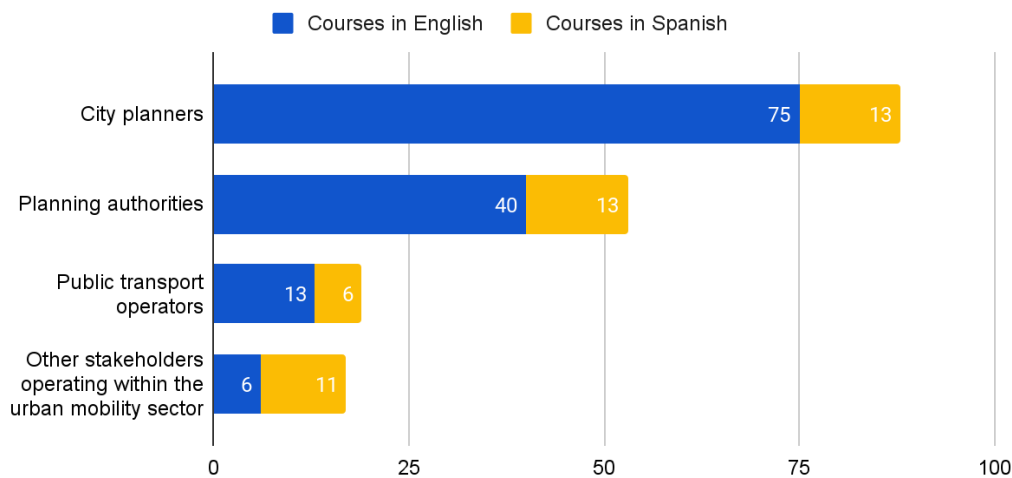
Figure 8. Courses' target audiences

3.5. Delivery methods

Most courses <u>in English and in Spanish</u> are self-paced courses which students can take at their own time and schedule, without the synchronic presence of an instructor. **A smaller proportion of courses are taught via live online sessions** with fixed dates, instructors and live interaction among students. Lastly, **very few courses combine both methods**, that is, self-paced courses complemented with live exchange sessions (Figures 9 and 10). For a few courses, it was not possible to establish the delivery method since they required a matriculation key or an enrollment approval (indicated as N/A in Figures 10 and 11).

Courses in English
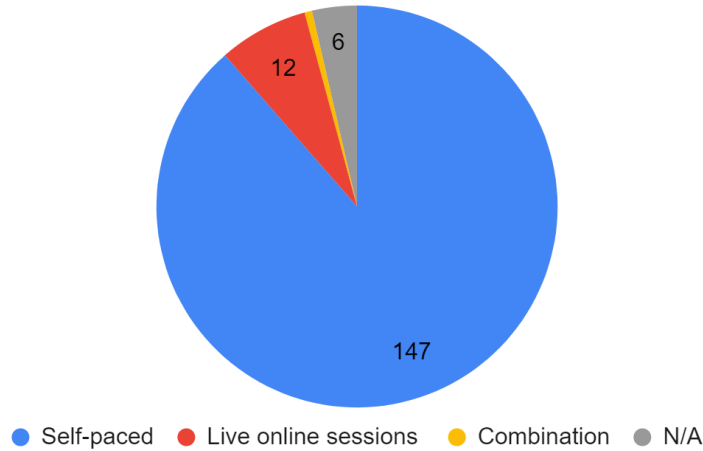
Figure 9. Delivery methods of courses in English
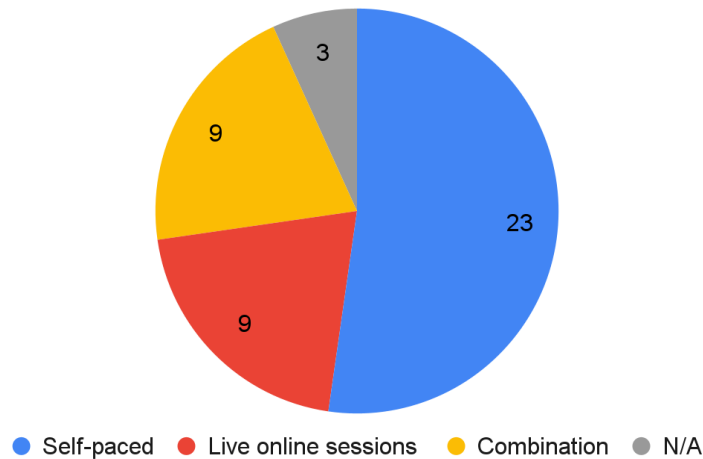
Courses in Spanish

Figure 10. Delivery methods of courses in Spanish

3.6. Costs

Of the courses in English, 108 are available for free, 34 are available for a certain cost, and 24 are available for free but require the payment of a fee for the issuance of a verified certificate (Figure 11). On the other hand, **17 courses in Spanish are available for free, 17 are available for a certain cost, and 10 are available for free but have a fee for the verified certificate (Figure 12).** The range of prices for fees and costs of entire courses is very variable, as well as their durations (from half an hour to months).

Courses in English
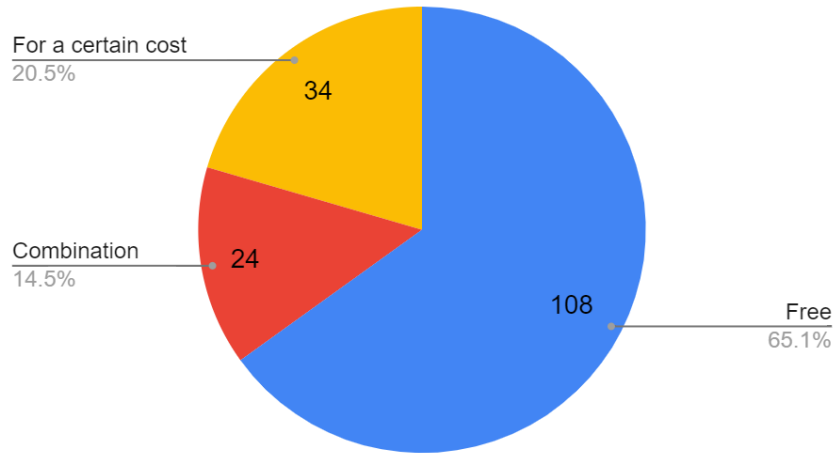
Figure 11. Costs of courses in English

Courses in Spanish

Figure 12. Costs of courses in Spanish

3.7. Thematic offer

Courses available in English cover 11 general topics related to sustainable urban mobility, whereas courses in Spanish cover seven. There are courses on seven general topics in both languages, whereas four topics are covered only in courses in English (Table 5).

Table 5. Topics covered by courses in English and Spanish

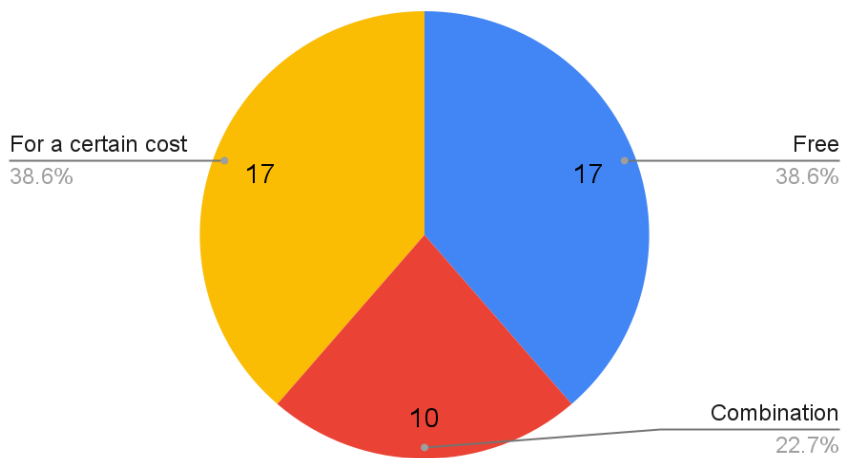| Courses in both languages	Courses in English only
7 topics	**4 topics**
Transport planning **Transport management** **Public transport** **Electric mobility** **Road safety** **Universal access** **Energy and transport**	**Active mobility** **Shared mobility** **New transport technologies** **Urban freight transport**

The general topic most addressed by <u>courses in both English and Spanish</u> is Transport Planning (51 courses in English and 18 courses in Spanish), which includes courses that provide a general overview of what transport planning and sustainable urban mobility entail, as well as courses that focus on more specific topics like travel demand modeling, community engagement, and plan development. **The second topics most frequently covered are Transport Management** - which contemplates the operation of transport systems and demand management- **for courses in English** (29 courses) and **Road Safety for courses in Spanish** (11 courses). Conversely, **the topics less addressed by <u>courses in English and Spanish</u> are Energy and Transport, and Universal Access.** Furthermore, there is **no offer of courses in Spanish on Active mobility, Shared Mobility, New Transport Technologies, or Urban Freight Transport** (Figure 13).

Courses in English ■ **Courses in Spanish** ■

Transport planning: English 51, Spanish 18
Transport management: English 29, Spanish 2
Public transport: English 24, Spanish 5
Active mobility: English 16
Electric mobility: English 15, Spanish 8
Shared mobility: English 14
Road Safety: English 10, Spanish 11
New transport technologies: English 9
Urban freight transport: English 6
Universal access: English 3, Spanish 2
Energy and transport: English 1, Spanish 1

Figure 13. Thematic offer of courses in English and in Spanish.

Note: Some courses address more than one topic. For instance: e-mobility and public transport for courses on e-buses, active and shared-use mobility for courses on bike sharing, etc.

More precisely, **the seven general topics previously mentioned include a total of 75 subtopics, of which 69 are covered in English and only 23 are covered in Spanish** (Table 6). This gap increases if **only courses available for free and open to the general public** are considered, as the numbers of **available subtopics reduce to 62 in English and 12 in Spanish**.

Table 6. Topics and subtopics covered by courses in English and Spanish

General topics and subtopics	Courses in English		Courses in Spanish	
	Available	Av x free	Available	Av x free
A. Transport planning				
A.1. Overview	✔	✔	✔	
A.2. Transport and Land Use	✔	✔	✔	✔ (red)
A.3. Sustainable Urban Mobility Plans (SUMPs)	✔	✔	✔	✔ (red)
A.4. Data	✔	✔		
A.5. Transport modelling	✔	✔	✔	✔
A.6. Multimodal journey planning	✔	✔		
A.7. Road infrastructure	✔		✔	✔
A.8. Impact assessment	✔	✔		
A.9. Story-telling	✔	✔		
A.10. Public engagement	✔	✔		
A.11. Funding	✔			
A.12. Grant-writing	✔	✔		
B. Transport management				
B.1. Mobility management	✔	✔		
B.2. Other policy measures - overview	✔			
B.3. Parking	✔	✔		
B.4. Access regulations	✔	✔		
B.5. Road user charging	✔	✔		
B.6. Gamification	✔	✔		
B.7. Operation - overview	✔			
B.8. Information technology	✔	✔		
B.9. Crisis and emergencies			✔	
B.10. Organizational processes	✔	✔		
C. Public transport				
C.1. Overview	✔	✔	✔	
C.2. Design	✔	✔	✔	
C.3. Transit-oriented development (TOD)	✔	✔	✔	✔ (red)

Note: ✔ represents availability; ✔ (red) represents availability for free but not open to the general public/meant for selected participants; ▒ represents unavailability.

General topics and subtopics	Courses in English		Courses in Spanish	
	Available	Av x free	Available	Av x free
C. Public transport (continues)				
C.4. Financing			✔	
C.5. Marketing	✔	✔		
C.6. Governance	✔	✔		
C.7. Information technology	✔	✔		
C.8. Microtransit	✔	✔		
C.9. Bus technology	✔	✔		
C.10. Eco-driving	✔	✔		
C.11. Gender			✔	✔
C.12. Crisis and emergencies			✔	
D. Active mobility				
D.1. Overview	✔	✔		
D.2. Planning and design	✔	✔		
D.3. Impact assessment	✔	✔		
D.4. Bicycling - Overview	✔	✔		
D.5. Bicycling - Marketing	✔	✔		
D.6. Bikesharing	✔	✔		
E. Electric mobility				
E.1. Overview	✔	✔	✔	✔
E.2. Technology	✔	✔	✔	✔
E.3. Policy and regulatory framework	✔	✔	✔	✔
E.4. Business and marketing	✔	✔	✔	✔
E.5. Shared mobility	✔	✔		
E.6. Urban freight transport	✔	✔		
F. Shared mobility				
F.1. Overview	✔	✔		
F.2. Planning	✔	✔		

Note: ✔ represents availability; ✔ represents availability for free but not open to the general public/meant for selected participants; represents unavailability.

Table 6 (continues). Topics and subtopics covered by courses in English and Spanish

General topics and subtopics	Courses in English		Courses in Spanish	
	Available	Av x free	Available	Av x free
F. Shared mobility (continues)				
F.3. Funding	✔	✔		
F.4. Public-Private Partnerships	✔	✔		
F.5. Persons with Disabilities	✔	✔		
F.6. Car Sharing	✔	✔		
F.7. Carpooling	✔	✔		
F.8. Bikesharing	✔	✔		
F.9. Electric Scooter Sharing	✔	✔		
F.10. Electric mobility	✔	✔		
F.11. Autonomous vehicles	✔	✔		
G. Road safety				
G.1. Overview	✔	✔	✔	✔
G.2. Planning and monitoring	✔	✔	✔	✔
G.3. Road design	✔	✔		
G.4. Child road safety			✔	✔
G.5. Youth and road safety	✔	✔		
G.6. Safe driving	✔	✔	✔	✔
H. New transport technologies				
H.1. Overview	✔	✔		
H.2. Mobility as a service (MaaS)	✔			
H.3. Autonomous vehicles	✔	✔		
H.4. Intelligent Transport Systems (ITS)	✔	✔		
H.5. Ethics	✔			
I. Urban freight transport				
I.1. Overview	✔	✔		
I.2. Electric mobility	✔	✔		

Note: ✔ represents availability; ✔ represents availability for free but not open to the general public/meant for selected participants; ▨ represents unavailability.

Table 6 (continues). Topics and subtopics covered by courses in English and Spanish

General topics and subtopics	Courses in English		Courses in Spanish	
	Available	**Av x free**	**Available**	**Av x free**
J. Universal access				
J.1. Gender - Overview	✔	✔	✔	✔
J.2. Gender - Violence prevention			✔	✔
J.3. Persons with Disabilities	✔	✔		
J.4. Rural transport	✔	✔		
K. Energy and transport				
K.1. Overview	✔	✔	✔	✔

Note: ✔ represents availability; ✔ represents availability for free but not open to the general public/meant for selected participants; ▨ represents unavailability.

4. Conclusions

This analysis was structured around several aspects of the information collected for the identified online courses related to sustainable urban mobility. About them, it is important to highlight the following points.

Identified courses are developed and implemented by actors like universities or other academic institutions, organizations and initiatives working on the promotion of sustainable mobility, development banks, public transport operators, and individual instructors. The European initiative **CIVITAS**, the **European Institute of Innovation and Technology (EIT) Urban Mobility initiative**, and the American organization **Shared-Use Mobility Center** are the ones that developed the **highest number of courses in English**, whereas the spanish **Instituto de Movilidad**, the Latinamerican **Fundación Gonzalo Rodríguez (FGR),** the **dutch Delft University of Technology**, and the **EUROCLIMA+ programme** are the ones that developed the **highest number of courses in Spanish**. Only **six actors develop courses in both languages**: the previously mentioned **Delft University of Technology,** the **International Association of Public Transport,** the **United Nations**, the **SOLUTIONSplus Project**, the **Inter-American Development Bank**, and the **World Bank.** Despite being all available courses oriented towards transport professionals in general, **specific audiences stand out, like city planners and planning authorities**, showing the **need for more courses oriented towards other stakeholders involved in the operation and management of urban mobility** that are not part of the public sector.

Most importantly, **there is a great disparity between the offer of courses in English and in Spanish in terms of amount, platforms, costs, and topics covered.** We were able to identify **166 courses in English hosted in 16 e-learning platforms, whereas in Spanish we only found 44 courses in 10 e-learning platforms**. In addition, **132 courses in English are available for free, compared with only 27 courses in Spanish**[3]. Furthermore, **there is a big thematic gap between content available in English and in Spanish: courses in English cover 11 general topics and 69 subtopics related to sustainable mobility, whereas courses in Spanish cover only seven general topics and 23 subtopics**. This reveals the great opportunity to explore synergies with different actors to adapt existing content in English to Spanish, and to develop new content in Spanish as well.

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[3] These numbers include courses that are available for free and require the payment of a fee for the issuance of a certificate.