Università degli Studi di Torino

UniToGO
UNIVERSITÀ DI TORINO
GREEN OFFICE

Mobility Governance of a Mega-atheneaum: the case of Turin

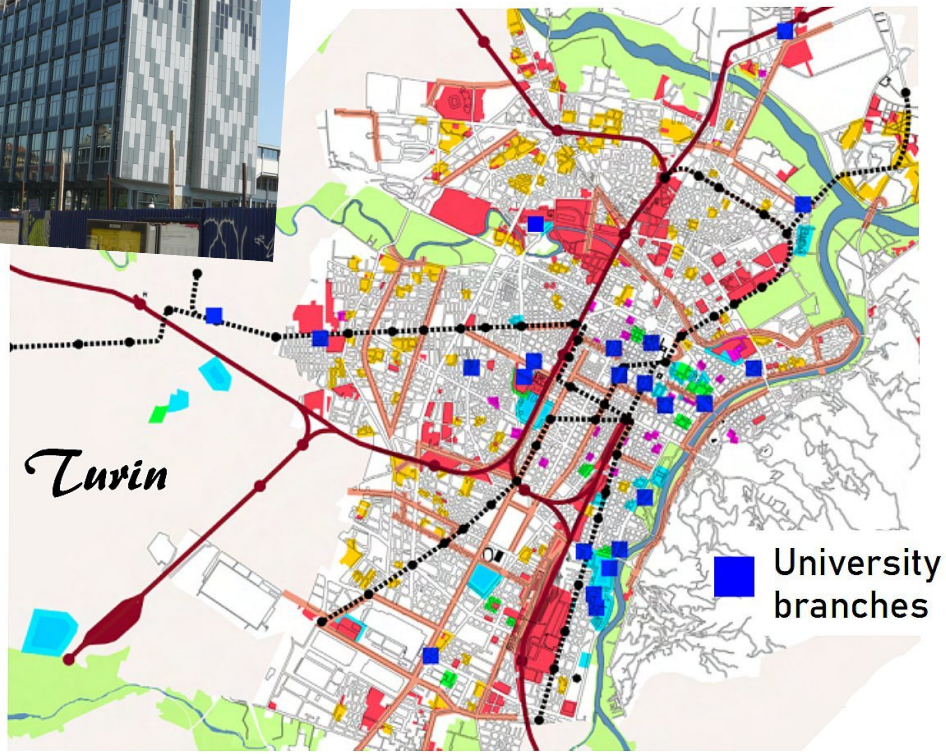
U-Mob Conference - Krakow, 14-15 March 2019

Andrea Scagni
Head of Mobility Team
UniTO Green Office

Micol Maggiolini
staff
UniTO Green Office

UniTo – the University of Turin

- A large, mega-atheneum with a sparse structure, about 120 branches in different locations around the city (and the suburbs)
- Its daily activities induce a significant part of the Turin metropolitan area mobility
- With a community of around 75.000, distances covered every single day are way above 100.000 kms.



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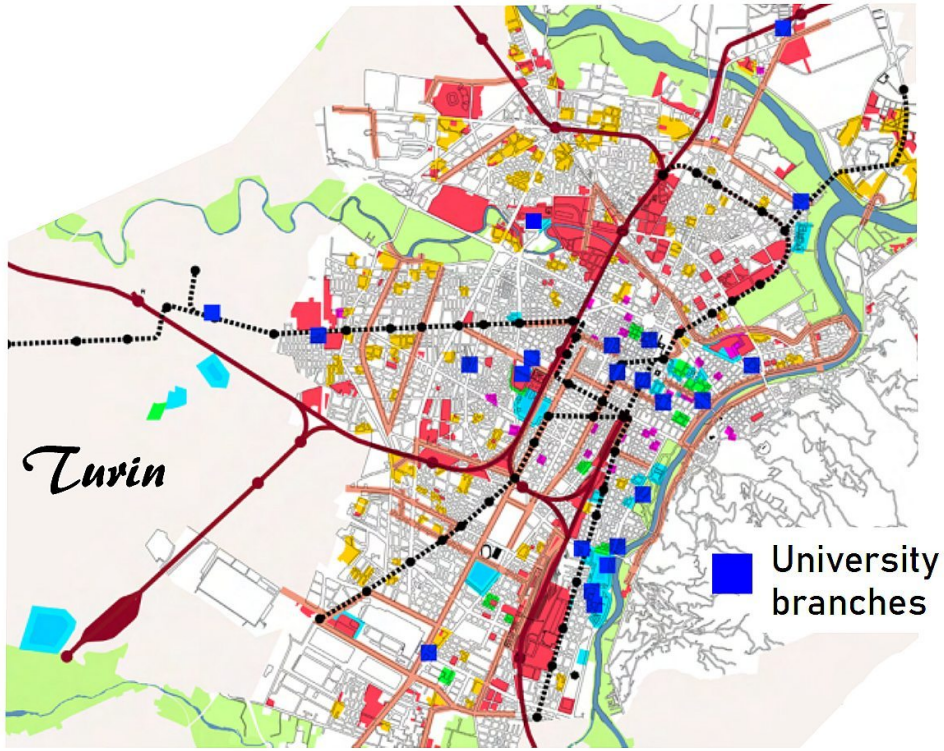
Seven main campuses



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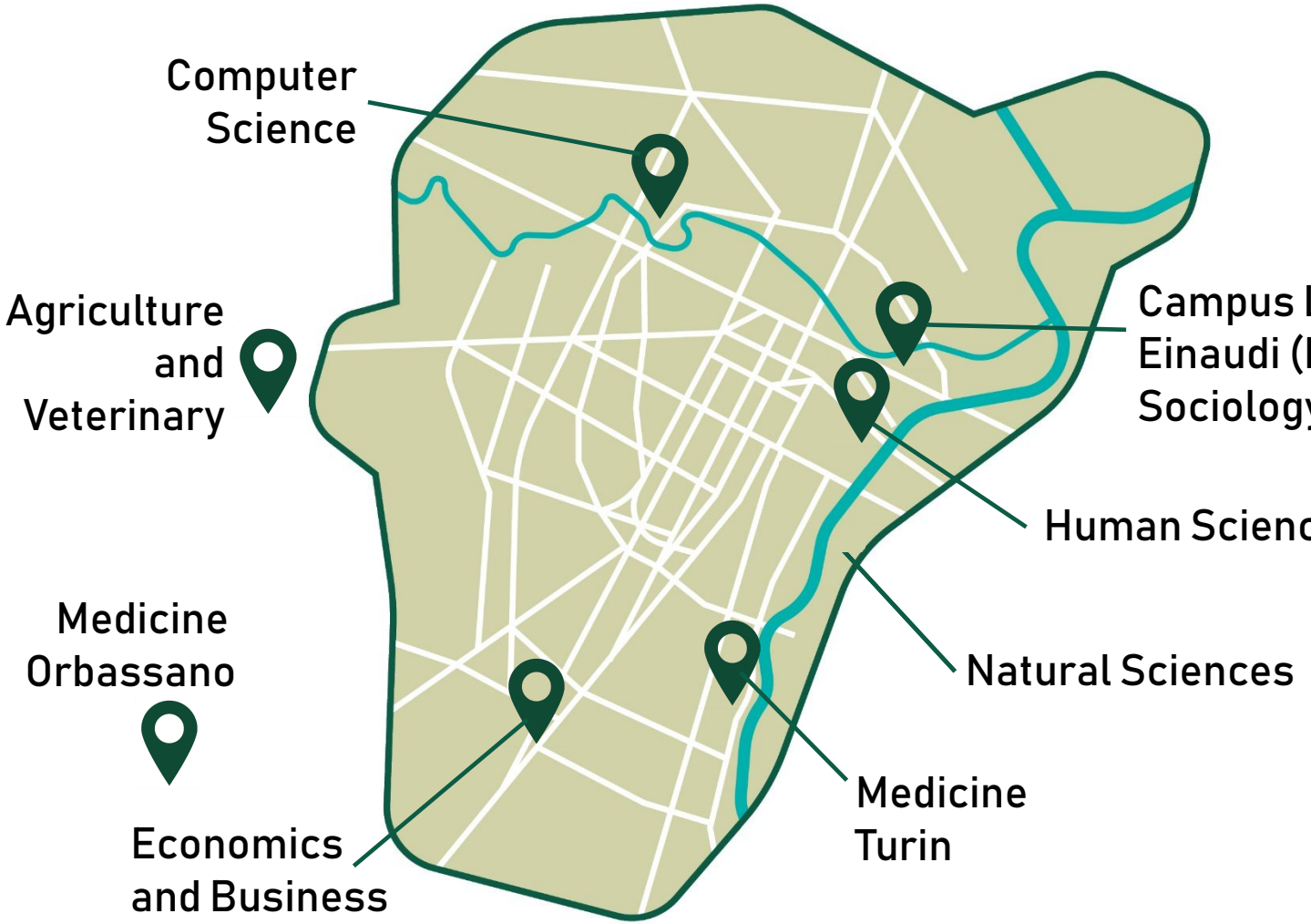

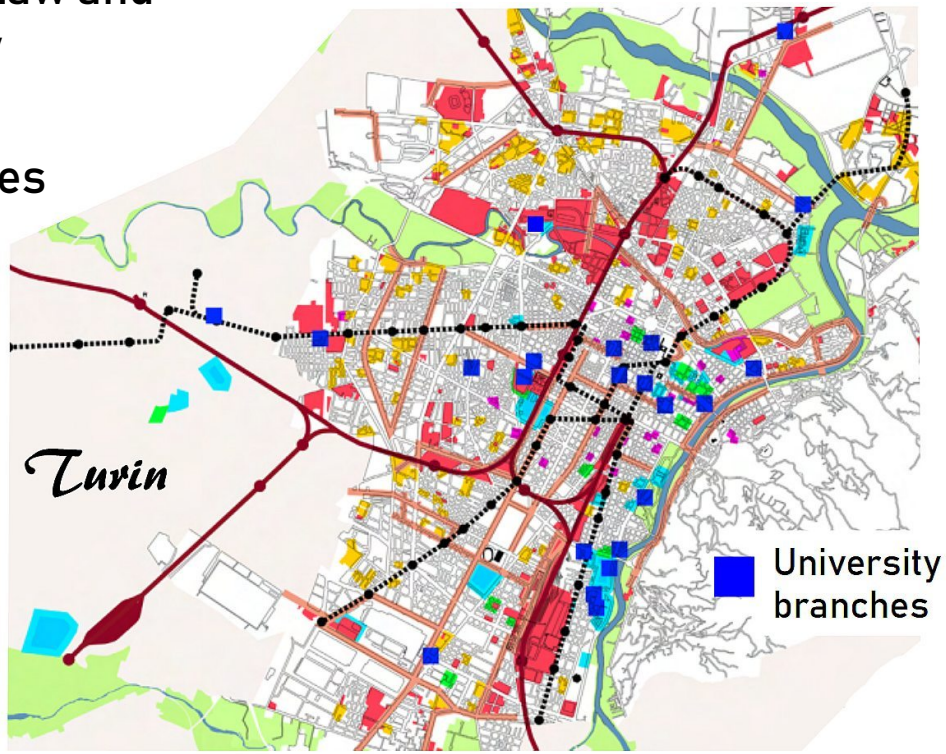

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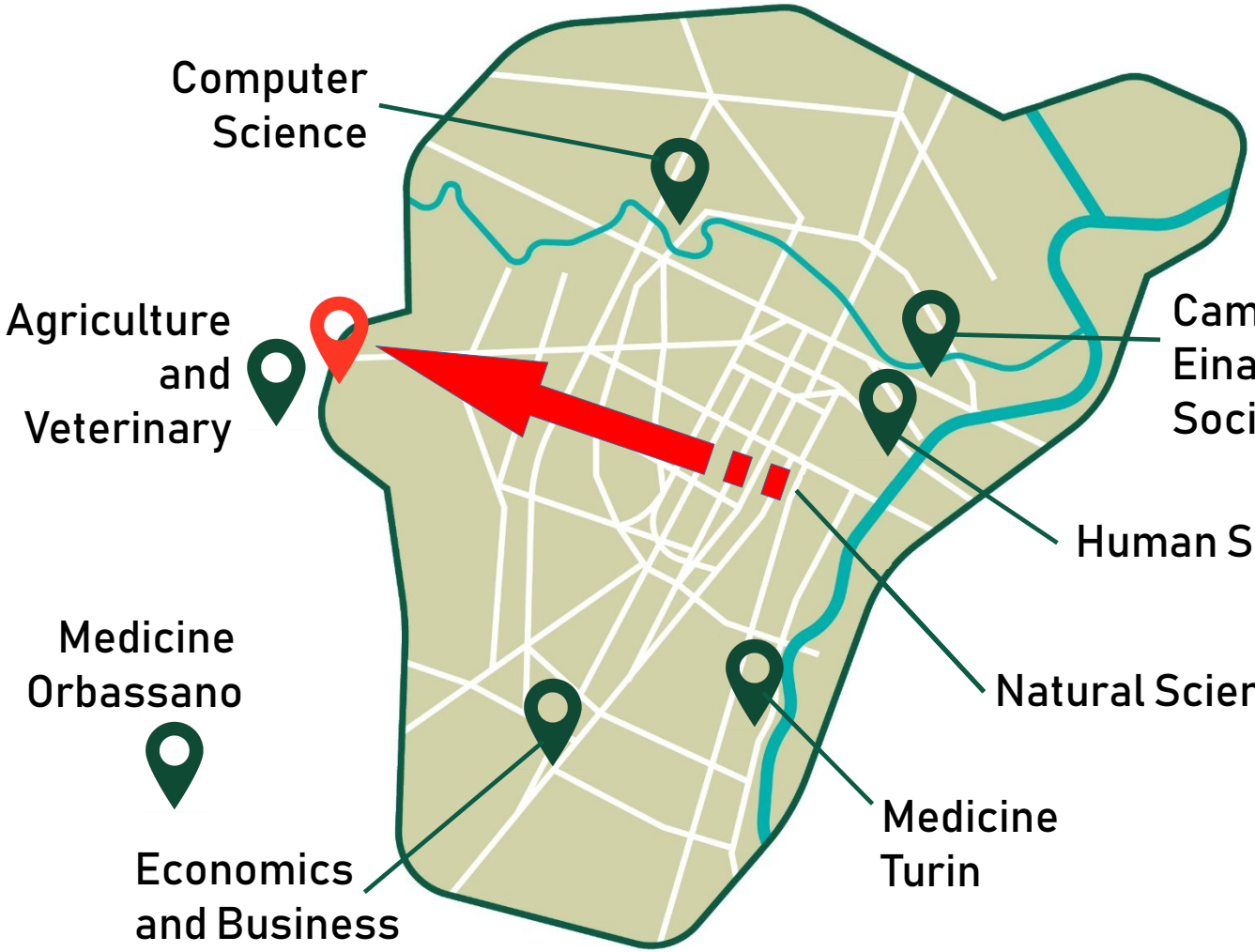

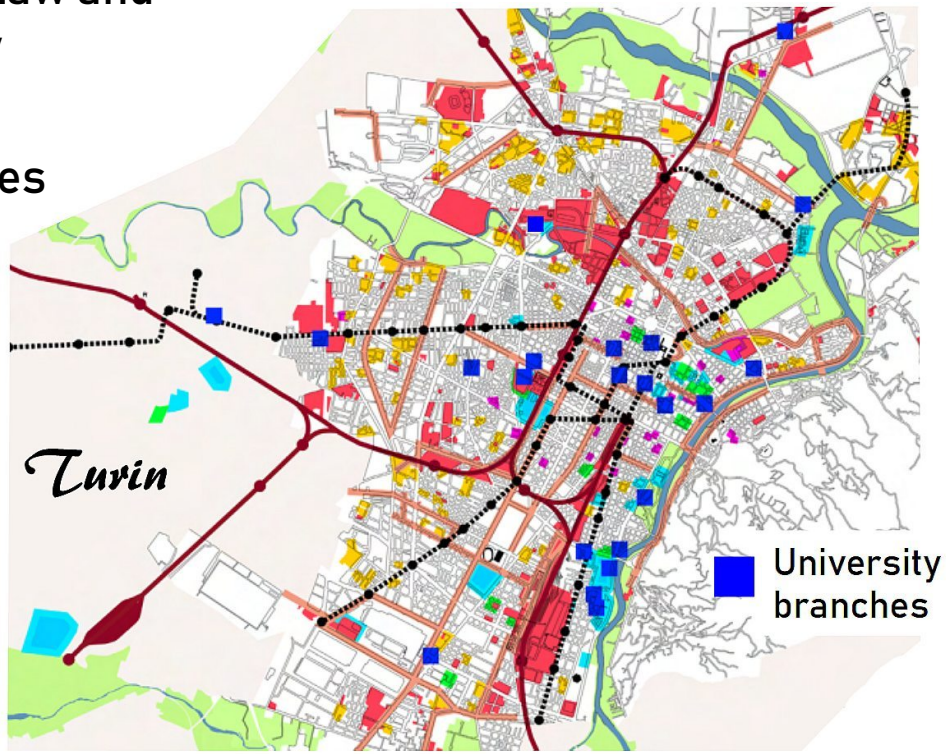

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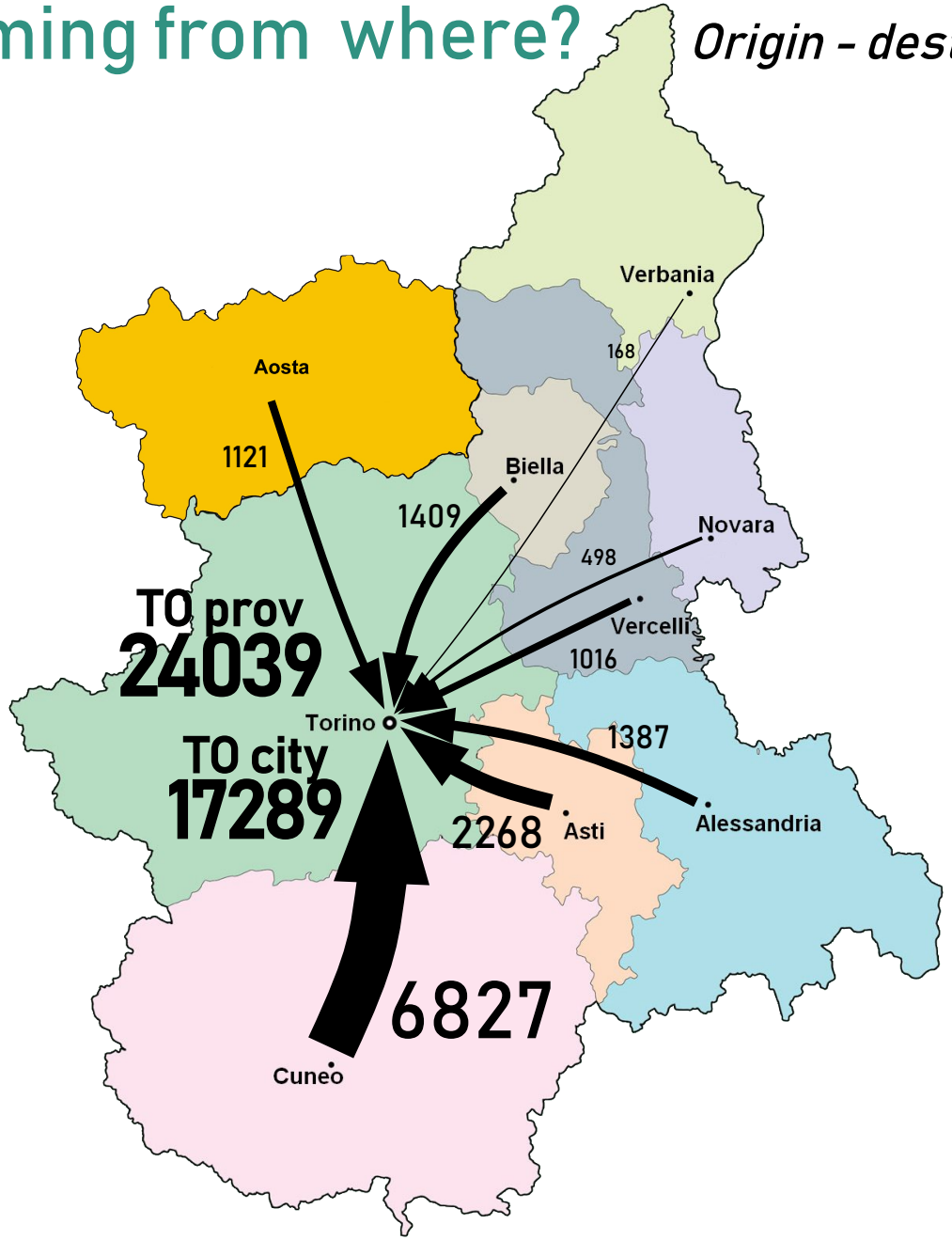
Coming from where?

Origin - destination matrix



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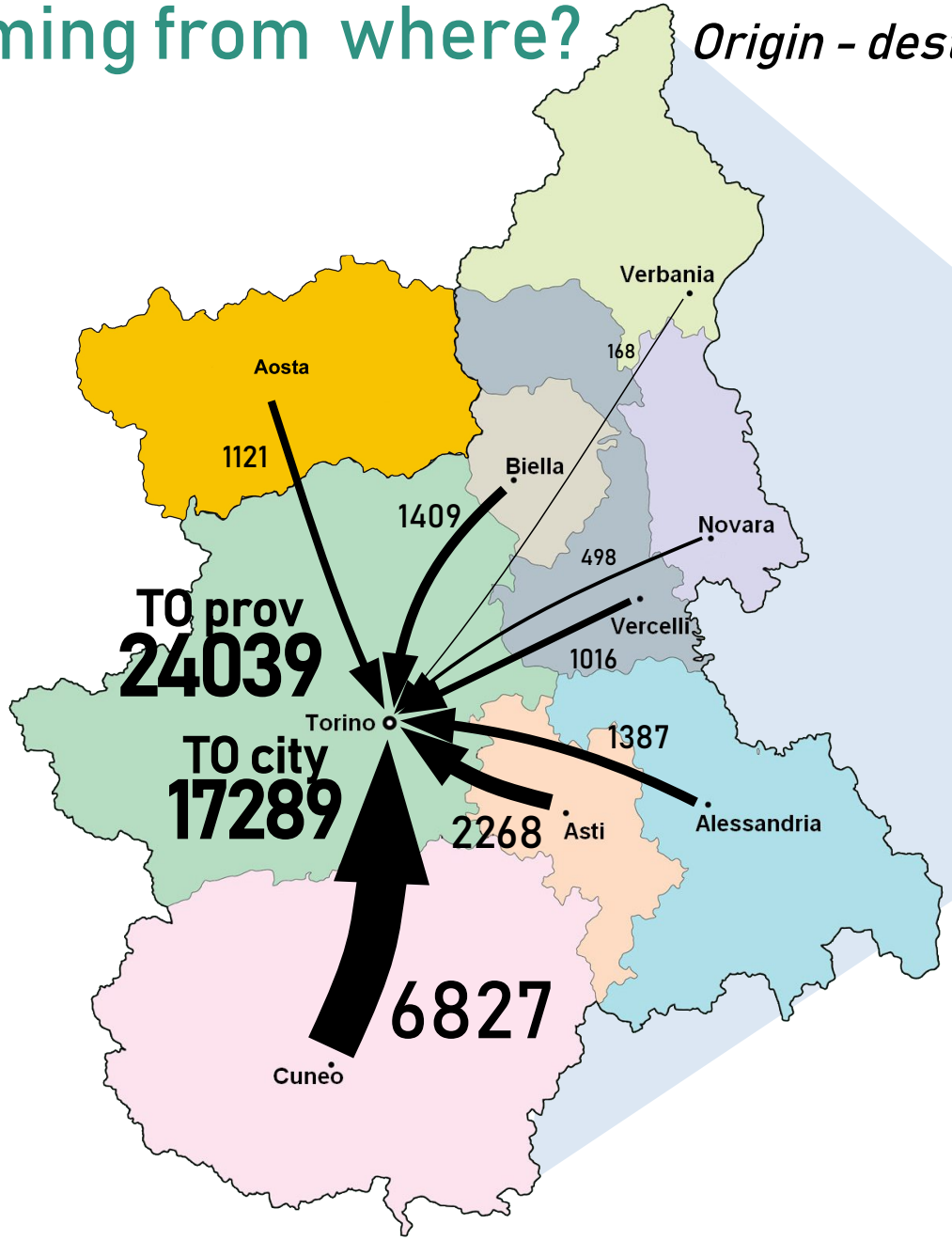

Foreign countries 1157

Italy excl. Piedmont

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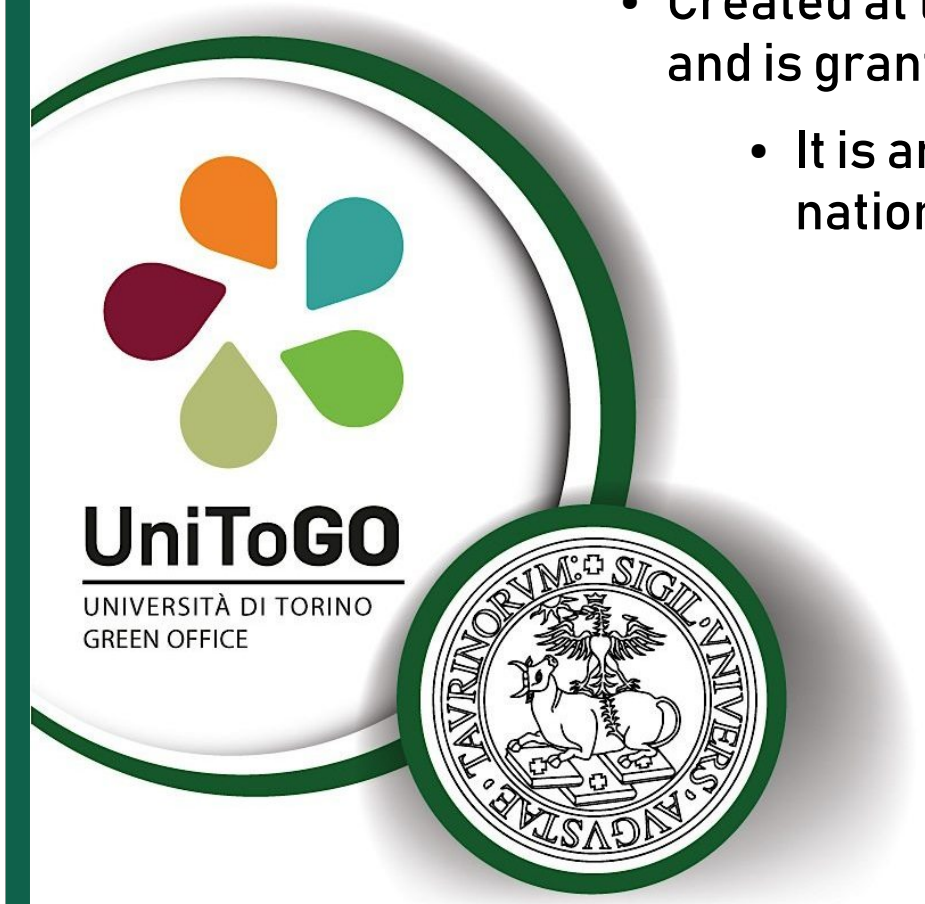
UniToGO – *Green office*

- A dedicated team that works with a combined *research + action* approach on all topics concerning the sustainability of the university day-to-day activities
  - Created at the end of 2016, includes people from faculty, students, staff and is granted specific funding
    - It is an active member of the RUS (*Rete Università Sostenibili*) national network



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      - Organised in 5 working groups:

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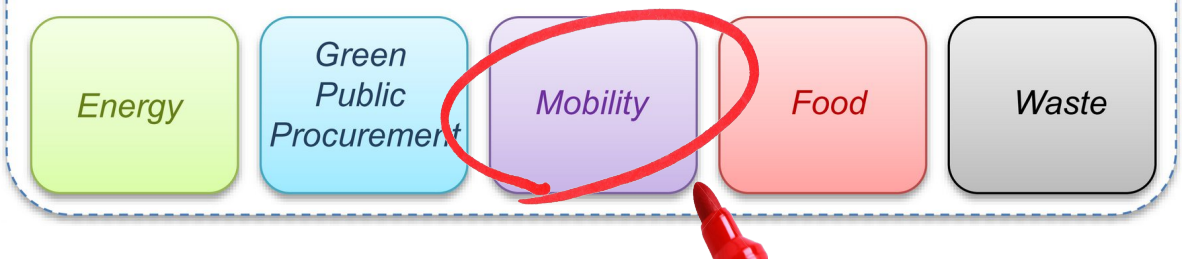
Working Groups

Each group has an academic, a technical, a researcher representative and several students involved for thesis projects.



UniToGO - *Sustainable mobility working group*

- The main goal is to build cultural, normative and structural conditions that can motivate the members of the UniTo community to change their mobility choices towards sustainability

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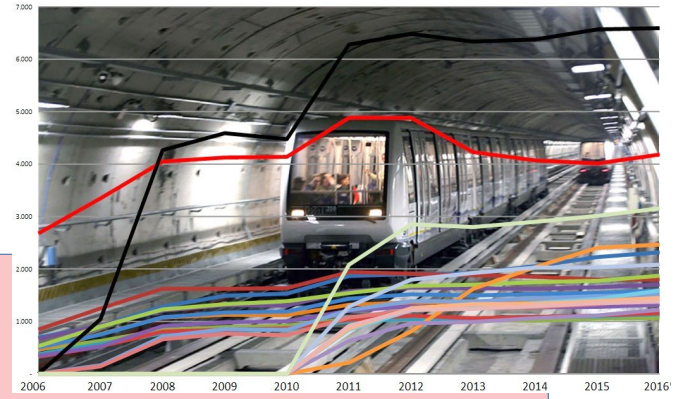
The *Modal share* of home-to-work and home-to-school should should increase for:

- *active mobility* (walking & cycling)
- Regional and local public transport (road or rail)
- Standard or new forms of *sharing mobility*

UniToGO - *Sustainable mobility working group*



The 3 STEPS of our approach:

Learn

- Acquire data and information on the present status of mobility choices and on the accessibility of all university buildings and locations, both internal and from public road network;

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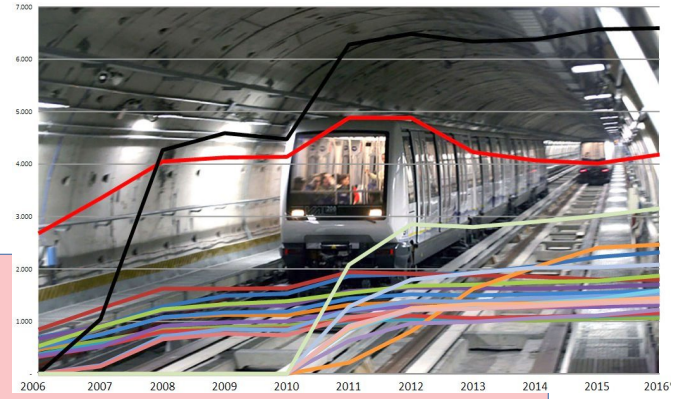

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Engage & motivate

- Increase the community awareness on the potential for a cleaner, more efficient mobility as part of an overall effort to improve environmental standards of the Athenaeum;
- create a wide network with other higher education institutions, local authorities, firms and associations to develop and share a joint approach to sustainability combining scientific, technical and administrative know-how

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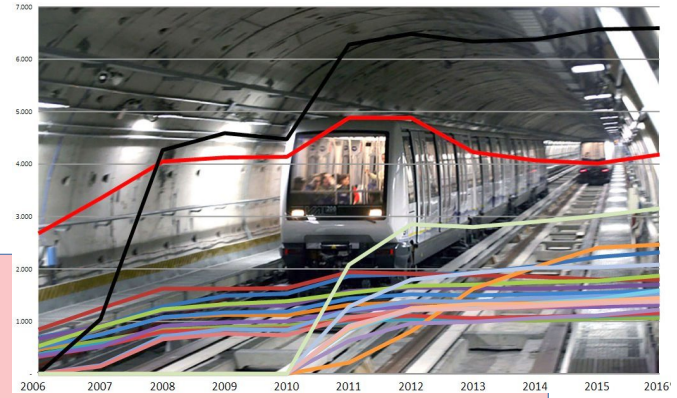

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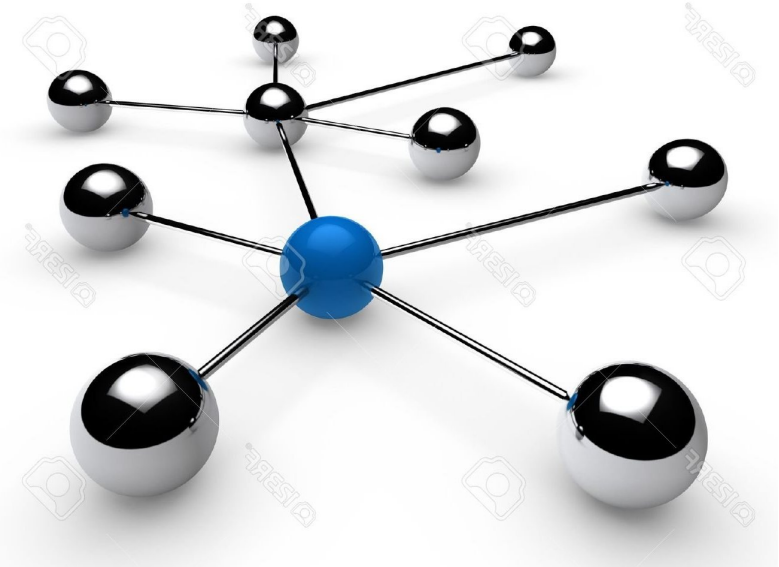
Change

- define and apply incentive policies with economic bonuses and tariffs, regulation and rationalization of parking spaces;
- Analyse the urban road and local transport networks that reach and serve university locations, develop goals and proposals to improve their ability to favour sustainable mobility

The Network of the working group

Local partners

- Piedmont Region
- Agenzia per la Mobilità
- 5T (data analysis)
- Turin Metropolitan Authority
- City of Torino
- GTT (public transport)
- To-Bike (bike sharing)
- Fiab (grassroots advocacy)



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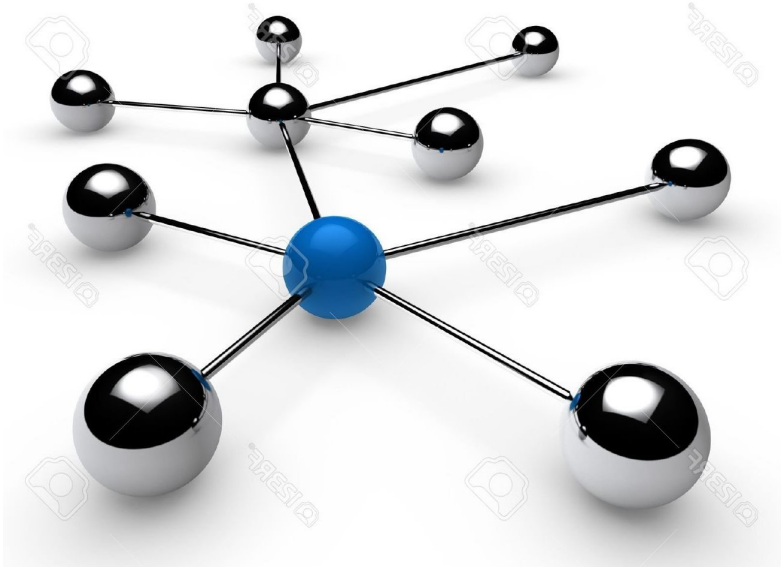

Inside Unito

- University governance
- Administration branch
- Press office
- Sustainability Report
- Personnel Training Branch
- Part-time students
- GreenTo (grassroots advocacy)

MobilitaUniTo: *the mother of all surveys*

- On-line questionnaire, both PC and mobile friendly
- 17.500 responses
- 2 units of dedicated staff

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A huge effort to gather knowledge

- UNITO Newsletter
- Social media of all kinds
- Local promotion events
- Vocational training courses
- Prize draw for students
- Specific letters from *rector magnificus*

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MobilitaUniTo *how you travel matters to us*

A deep insight on behaviour and choices

- Detailed, possibly multimodal *home2university* journey with info on each stretch mode and time
- Separately reported by season and weather
- Bike (and other) sharing specific section
- Subjective perception of critical issues regarding cycling and public transport (and the combination)
- Mobility assets and options actually available to the individual
- Travelling between university locations

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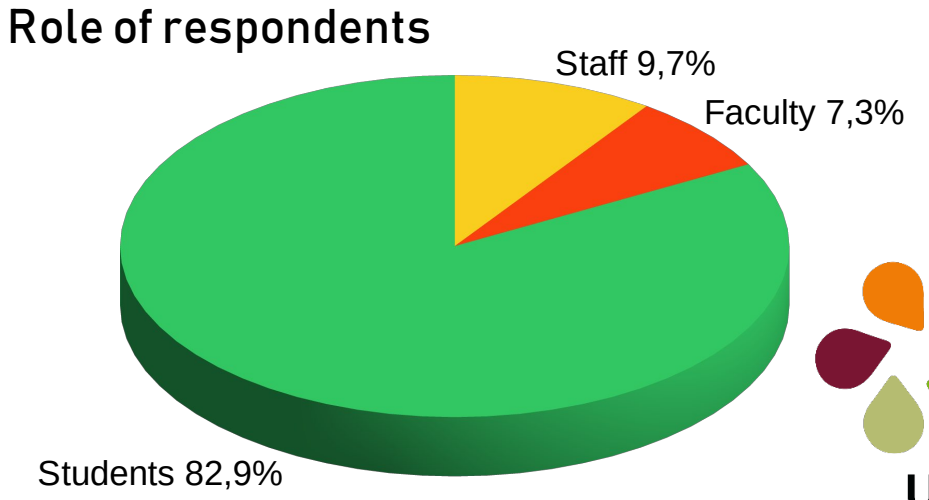

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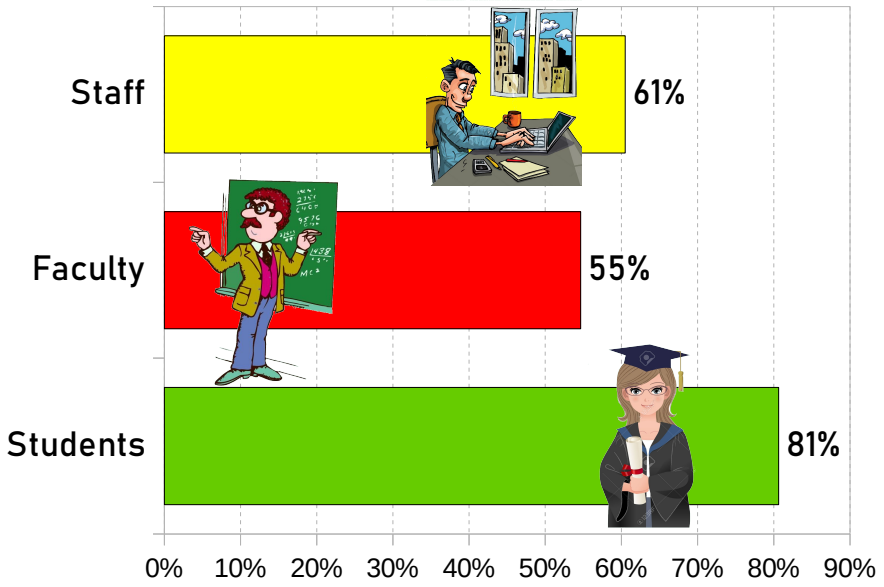
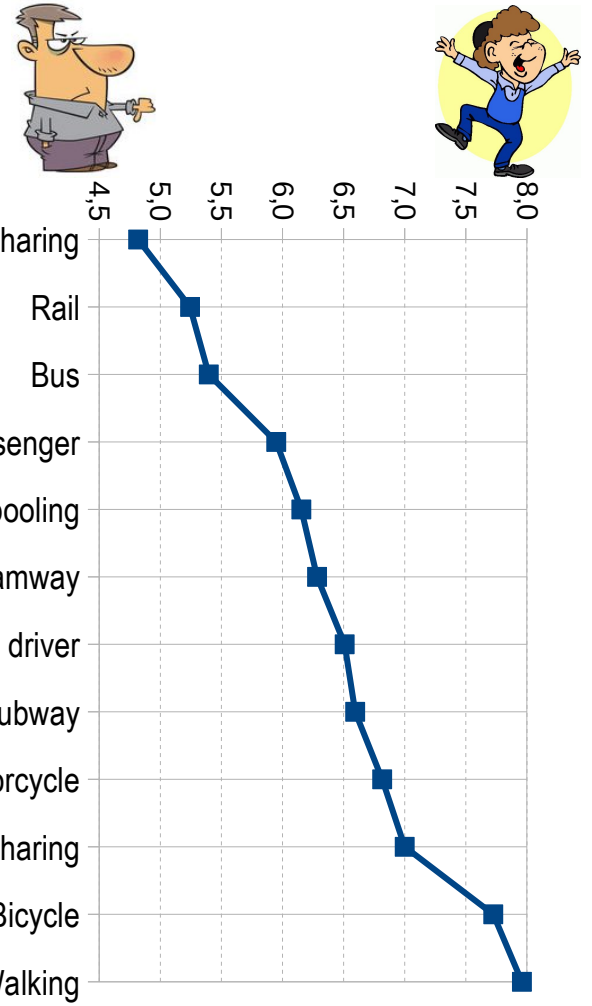
MobilitaUniTo: *a glimpse on the results*

Multimodality

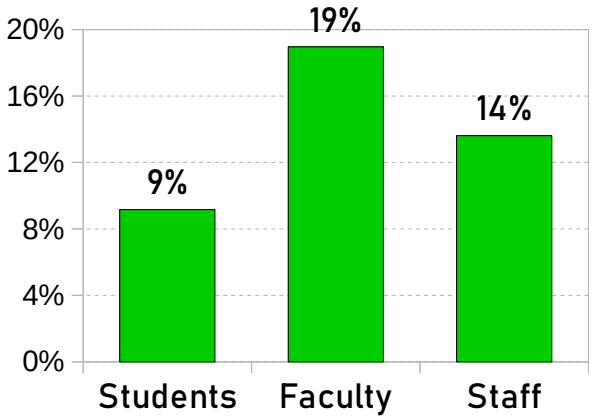
n. stretches	%
1	52,7%
2	29,4%
3	14,4%
4	3,2%
5	0,3%
Total	**100,00%**

Fully sustainable journeys





Cycling on the home2univ journey (summer)



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MobilitaUniTo

Complete journeys in detail - WINTER

Multimodality count

n. sections	N. cases	%
1	7308	52,90%
2	4080	29,54%
3	1972	14,28%
4	424	3,07%
5	30	0,22%
Total	**13814**	

Section 1	Section 2	Section 3	Section 4	% cases	N. of people	distance in KM.
Road public transport				20,9%	14.410	9,4
Car				15,5%	10.705	22,0
Walking				11,0%	7.630	4,9
Road public transport	Walking			9,1%	6.290	12,4
Road public transport	Road public transport			7,4%	5.140	18,6
Train	Road public transport			6,2%	4.290	57,9
Bicycle				3,9%	2.710	5,2
Car	Train	Road public transport		2,6%	1.795	57,8
Train	Road public transport	Walking		2,4%	1.635	54,3
Road public transport	Road public transport	Walking		1,9%	1.340	19,2
Train	Walking			1,8%	1.235	70,3
Car	Walking			1,7%	1.155	24,5
Car	Road public transport			1,6%	1.085	28,3
Car	Train	Road public transport	Walking	1,2%	810	55,5
Road public transport	Road public transport	Road public transport		1,0%	705	18,6
Car	Road public transport	Road public transport		1,0%	680	30,3
Car	Train	Walking		0,9%	630	69,9
Car	Road public transport	Walking		0,9%	615	27,3
Motorcycle/scooter				0,6%	410	10,1
Walking	Road public transport			0,5%	375	11,7
Walking	Road public transport	Walking		0,5%	375	11,7
Walking	Road public transport	Road public transport		0,5%	360	16,0
Sharing Mobility				0,5%	360	9,7
Walking	Train	Road public transport		0,5%	325	43,9
Train	Road public transport	Road public transport		0,5%	320	46,1
Road public transport	Train	Road public transport		0,4%	285	52,2
Train				0,4%	270	56,1
Walking	Train	Road public transport	Walking	0,3%	220	38,9
Walking	Road public transport	Road public transport	Walking	0,3%	210	18,0
Car	Road public transport	Road public transport	Walking	0,2%	155	28,4

DO THE RIGHT MIX

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Complete journeys in detail - SUMMER

	Section 1	Section 2	Section 3	Section 4	%
0,83	Road public transport				17,3%
0,91	Car				14,1%
1,13	Walking				12,5%
0,89	Road public transport	Walking			8,1%
1,93	Bicycle				7,6%
0,92	Road public transport	Road public transport			6,8%
0,94	Train	Road public transport			5,9%
0,93	Car	Train	Road public transport		2,4%
0,98	Train	Road public transport	Walking		2,3%
1,17	Train	Walking			2,1%
1,01	Road public transport	Road public transport	Walking		2,0%
0,91	Car	Walking			1,5%
0,96	Car	Road public transport			1,5%
2,72	Sharing Mobility				1,4%
2,04	Motorcycle/scooter				1,2%
0,98	Car	Train	Road public transport	Walking	1,1%
1,10	Car	Train	Walking		1,0%
1,05	Car	Road public transport	Walking		0,9%
0,91	Road public transport	Road public transport	Road public transport		0,9%
0,93	Car	Road public transport	Road public transport		0,9%
1,04	Walking	Road public transport	Walking		0,6%
1,00	Walking	Road public transport			0,5%
0,93	Walking	Road public transport	Road public transport		0,5%
0,97	Train	Road public transport	Road public transport		0,4%
0,92	Walking	Train	Road public transport		0,4%
0,96	Road public transport	Train	Road public transport		0,4%
0,98	Train				0,4%
1,00	Walking	Train	Road public transport	Walking	0,3%
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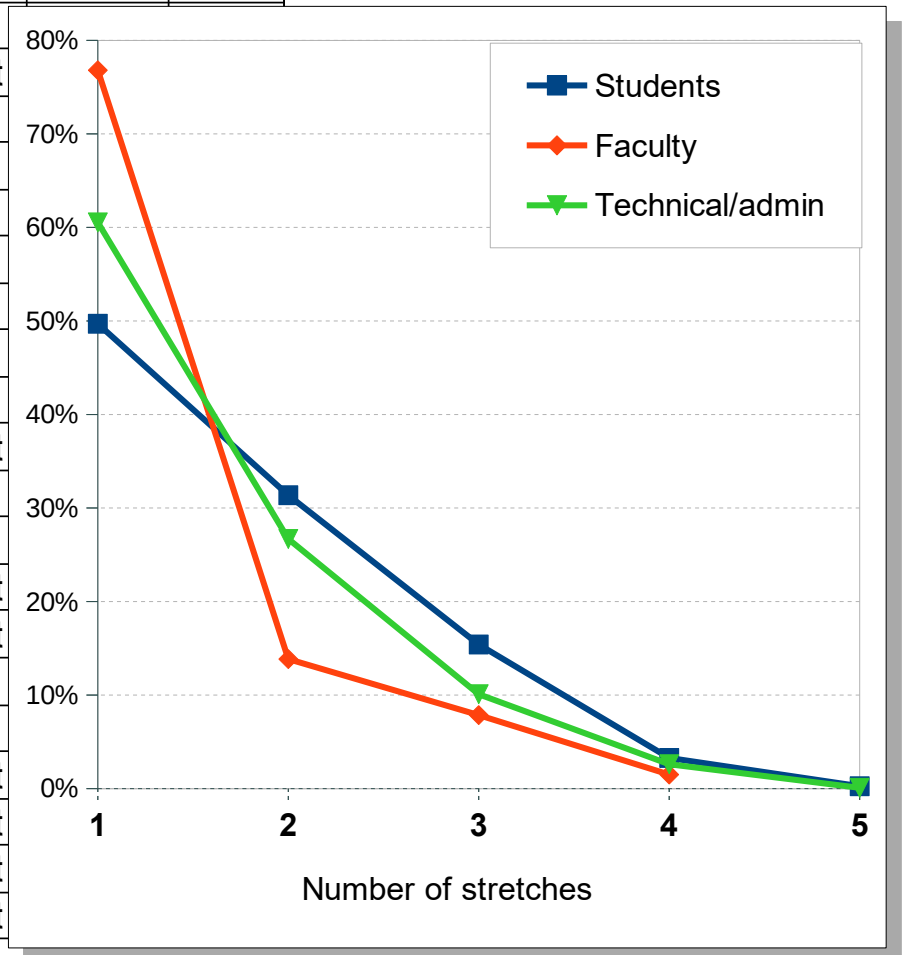

DO THE RIGHT MIX

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Inventory: *the existing bicycle parking lots*

- Quantity
- Safety
- Efficient use of space
- Easy to access and close to the site

REPORT SULLA CICLABILITÀ
DISPONIBILITÀ RASTRELLIERE

Economia e Amministrazione aziendale
- stazioni Tobike : 1 stazione con 28 postazioni
- rastrelliere comunali: 12 archi
- rastrelliere universitarie: 36 posti bici

Agraria e Medicina Veterinaria
- stazioni Tobike : 1 stazione con 14 postazioni;
- rastrelliere comunali: no;
- rastrelliere universitarie: 1x8 posti; 2x 10 posti; 3 archi;

Polo scientifico di via Giuria (Scienze Geologiche, Chimica, Fisica, Farmacia, Neuroscienze)
- stazioni Tobike : 2 stazioni con 15 postazioni ciascuna;
- rastrelliere comunali: 12 archi ; 11 rastrelliere con 2 posti ciascuna;
- rastrelliere universitarie:2 archi;

Medicina (Molinette)
Dipartimento di Biotecnologie Molecolari e Scienze per la salute
- stazioni Tobike : 1 stazione con 21 postazioni (Piazza nizza 46);
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Dipartimento di Neuroscienze (sede di c.so Massimo D'Azeglio)
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- rastrelliere comunali: 12 archi;
- rastrelliere universitarie: no

Dipartimento di Neuroscienze (sede di c.so Massimo D'Azeglio)
- stazioni Tobike : 1 stazione con 15 postazioni (c.so Raffaello ang. c.so Massimo D'Azeglio) ;
- rastrelliere comunali: no;
- rastrelliere universitarie: no;

Dipartimento di Neuroscienze (sede di via Cherasco)
- stazioni Tobike : 1 stazione con 18 postazioni (piazza Polonia) ;

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Bicycle parking: *new opportunities and solutions*

- Protected spaces for 100% safe parking

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Car parking: *new smart data-based policies*

We want to discourage car use… but how?

Animistic prayer?

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Emotionally charged advice?

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Car parking: *new smart data-based policies*

We want to discourage car use… but how?

Animistic prayer?

Desperate cry?

Emotionally charged advice?

>>>>> leverage car parking rules!

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Enter project S.U.S.T.A.I.N.: *Specific User Sustainability Through Accurate Index Number*

Background

- In 2012 the new Campus “Luigi Einaudi” (CLE) was opened, aggregating many teaching and research activities and involving several thousands people.
- Due to existing laws it had to include a large car parking (about 500 places), to avoid a “car plague” on the neighbourhood environment.

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Background

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- Due to existing laws it had to include a large car parking (about 500 places), to avoid a "car plague" on the neighbourhood environment.
- It remained largely unoccupied for years (monthly fee of 10€ - low but not free),
- It became a sought-after commodity in 2017 when public areas around the campus became toll parking at prices 7 times higher than the internal parking fees.

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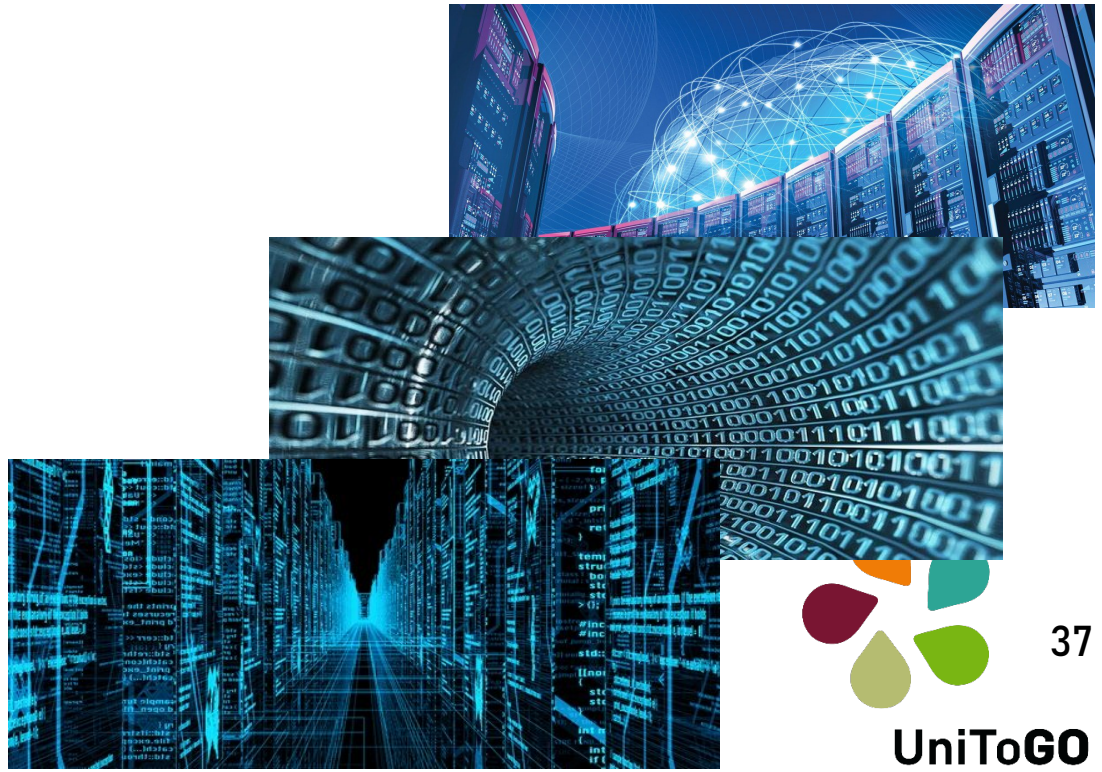
Project S.U.S.T.A.I.N.: *Specific User Sustainability Through Accurate Index Number*

The general approach

- Establish innovative and rational criteria to promote sustainable mobility through the whole university
- Explore ways to move beyond generic, broad appeals in the vein of "*please care for the environment*", "*please use your car less*" that just invoked individual goodwill



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The general approach

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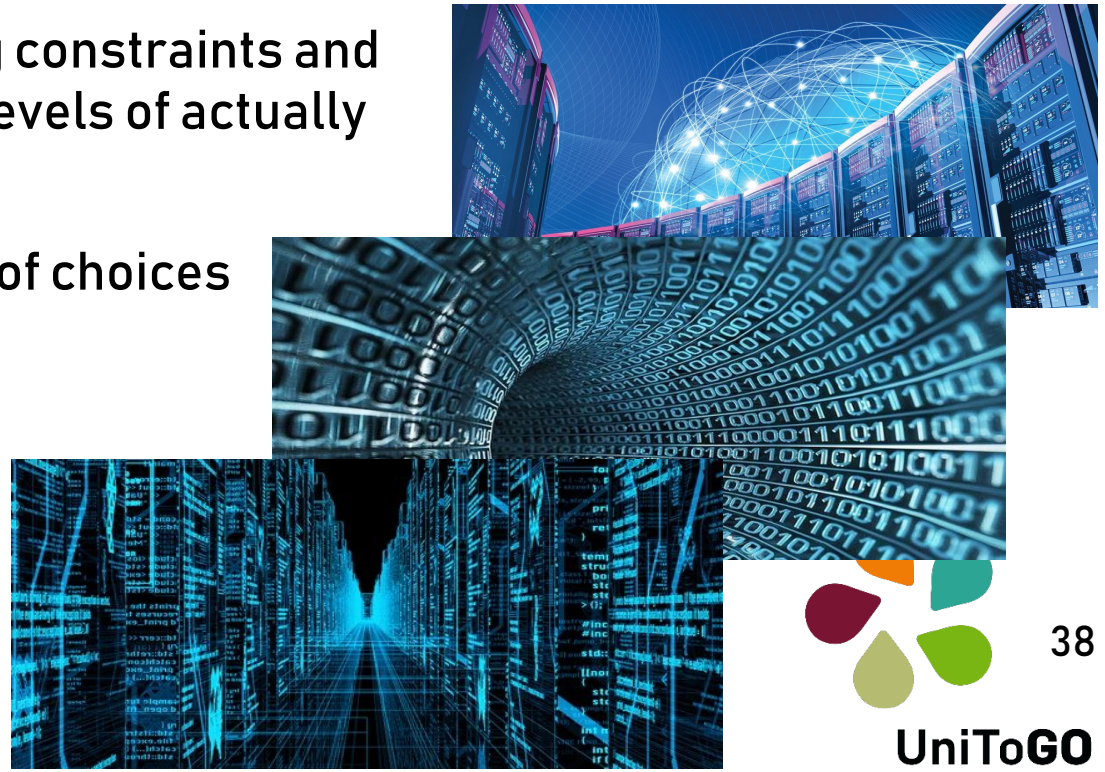
- Acknowledge that different people may have differing constraints and needs in terms of mobility, involving heterogeneous levels of actually achievable sustainability
- Obtain best results through data-based combination of choices and opportunities
- Optimizing the overall sustainability levels while allowing for special needs and more difficult situations to maintain less environmentally friendly journey modes



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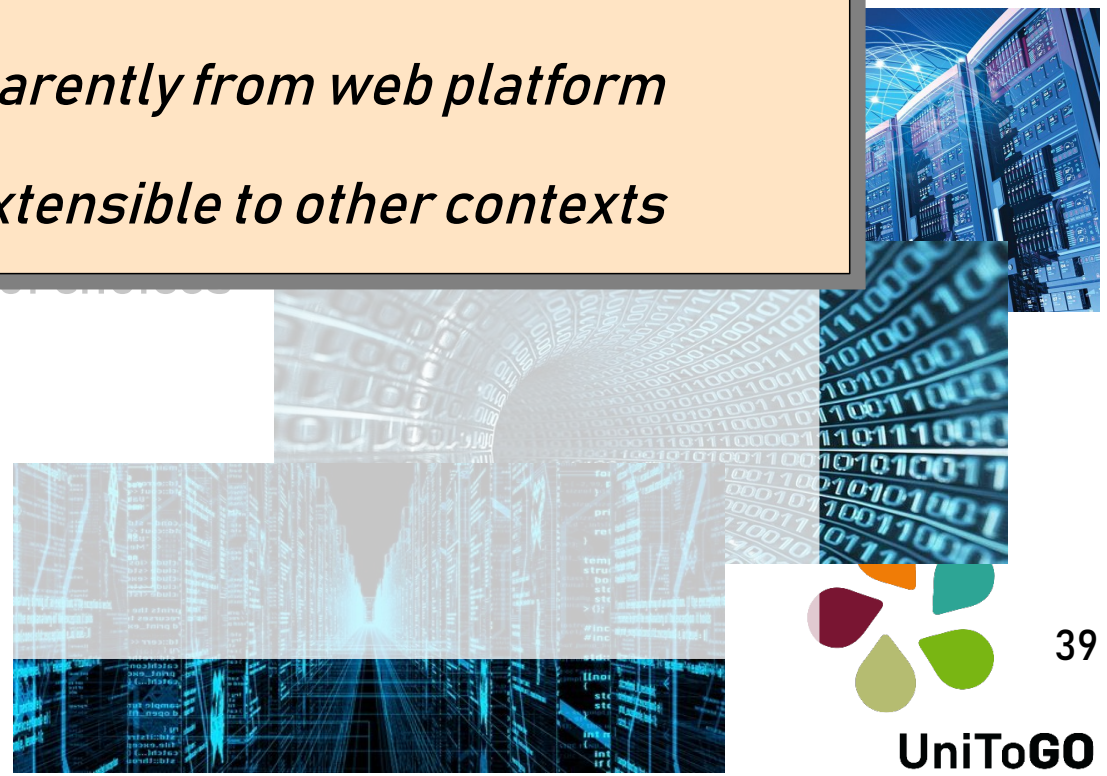
- *Allow access to car parking to those who most need it, disincentive others*
- *obtain information seamlessly and transparently from web platform*
- *establish, test and deploy criteria easily extensible to other contexts*



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Project S.U.S.T.A.I.N.: *Specific User Sustainability Through Accurate Index Number*

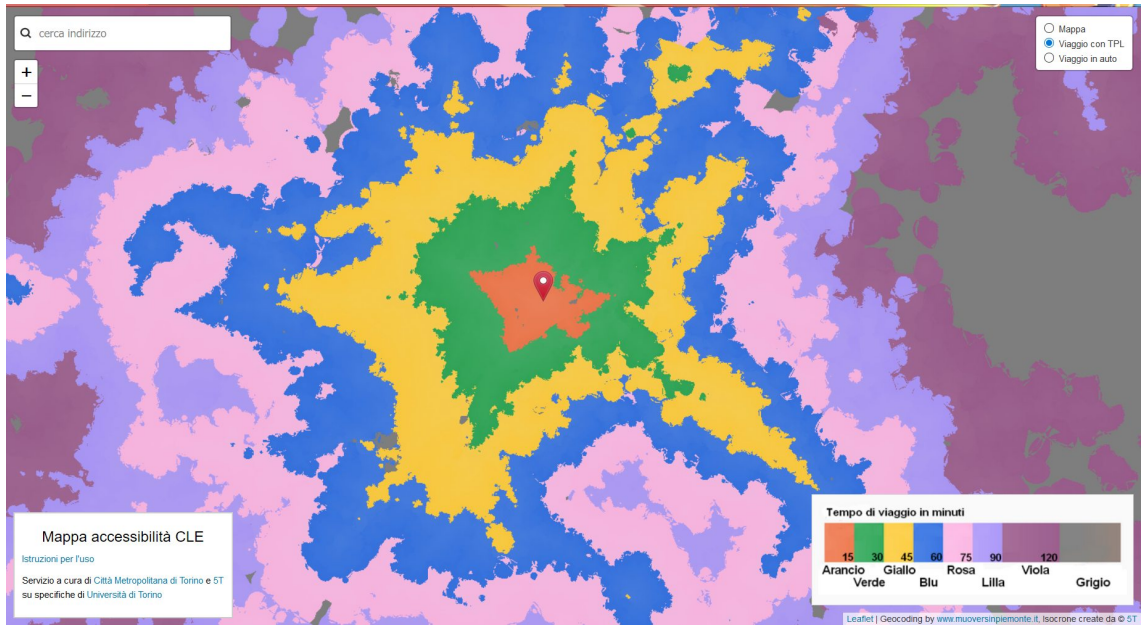
Allocation criteria:

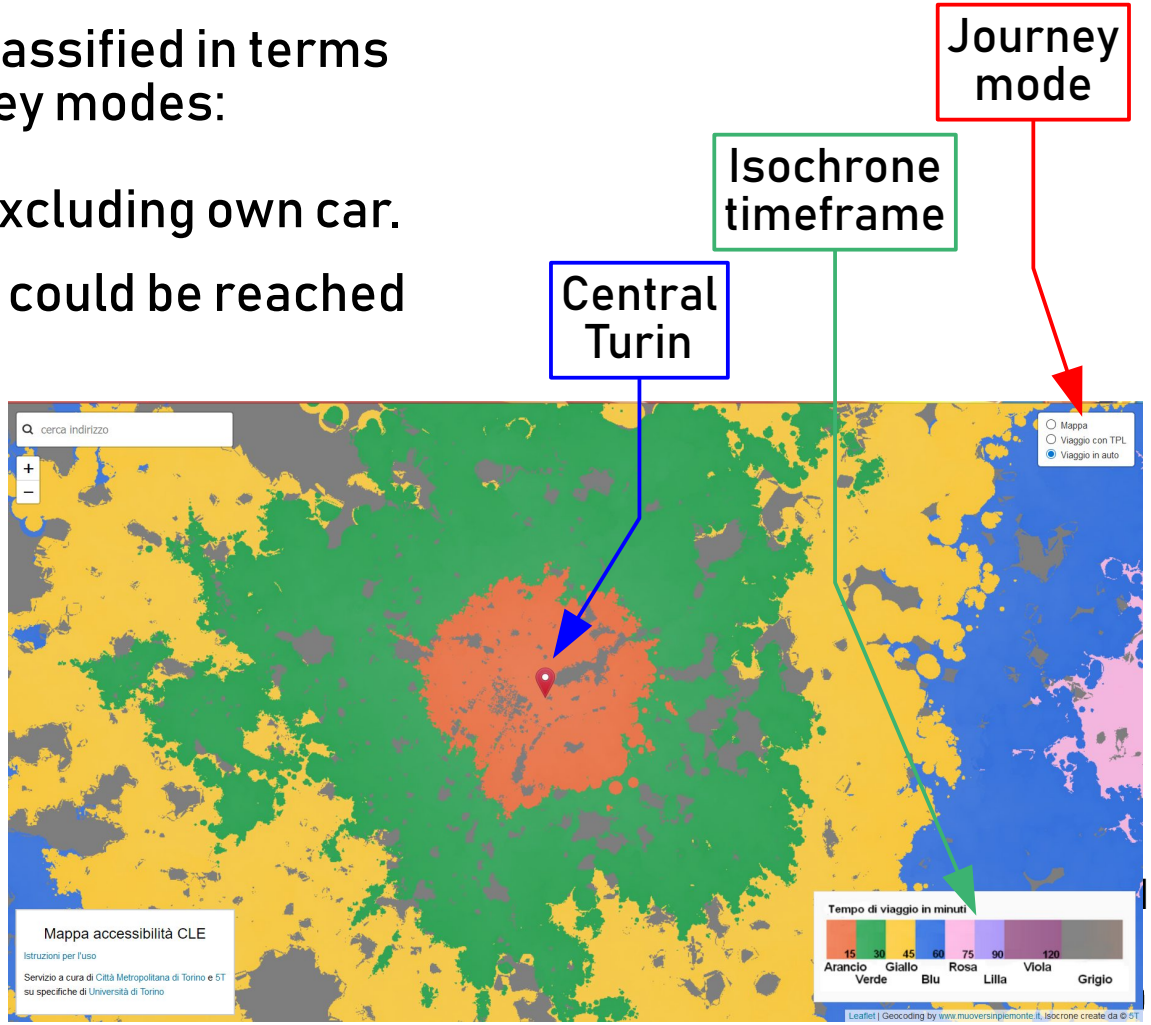
- Family related constraints (number and age of children, not self-sufficient elderly parents or relatives)
- Eco-friendly cars (electric, hybrid, sharing and pooling)
- Journey sustainability index
  - For any couple of origin-destination locations look at the comparative advantage of the standard door-to-door car journey versus the best multimodal solution involving active mobility plus public transport (including sharing) of any kind.
  - Automatically computed through already existing geographical routing engines maintained by the Piedmont Region to power web platforms offering transport info to citizens (*www.muoversinpiemonte.it*)

Project S.U.S.T.A.I.N.: *Specific User Sustainability Through Accurate Index Number*

First Stage

- the Campus identified as the single arrival location;
- isochrone mapping of the whole region spatially classified in terms of home-campus travel time in two different journey modes:
  - unimodal car only;
  - multimodal combinations of any kind, but excluding own car.
- The mappings drew areas from where the campus could be reached in the two modes within specific time frames.

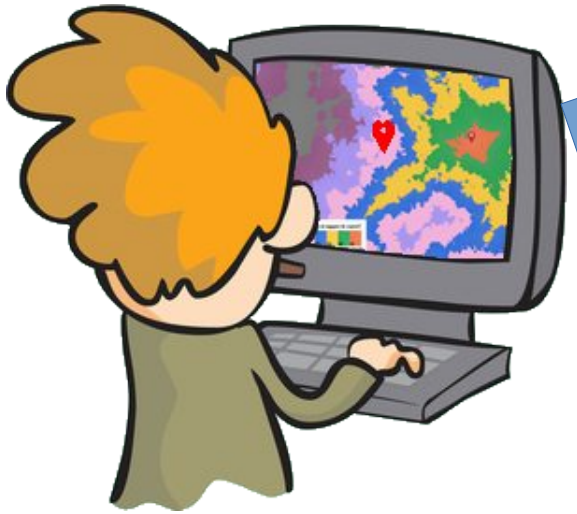


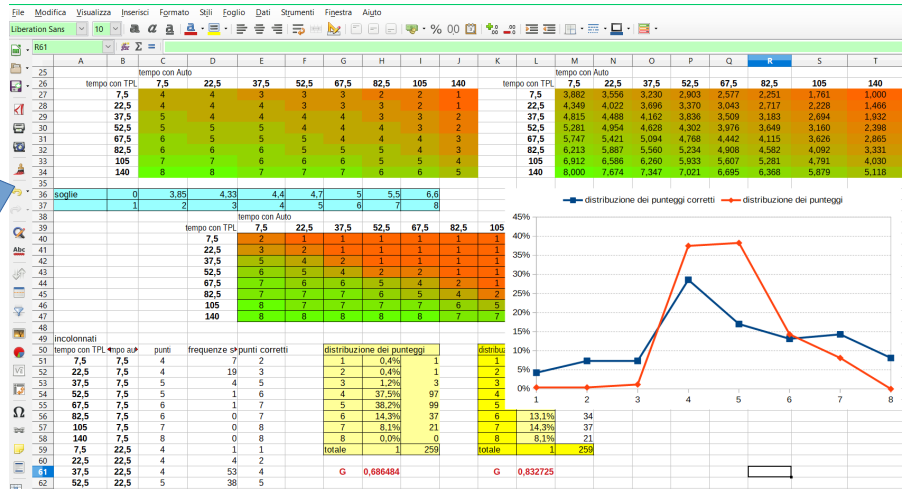


Project S.U.S.T.A.I.N.: *Specific User Sustainability Through Accurate Index Number*

First Stage

- The desired index was derived as a function of the difference of isochrones on the two mappings (*car only* and *sustainable*) for any home address of a community member submitting a permit request.
- The individual has to identify the colours of his home area in the two mappings on the web platform; this simple information is then processed through an *ad hoc* algorithm that translates it into a final number.





Sustainability index

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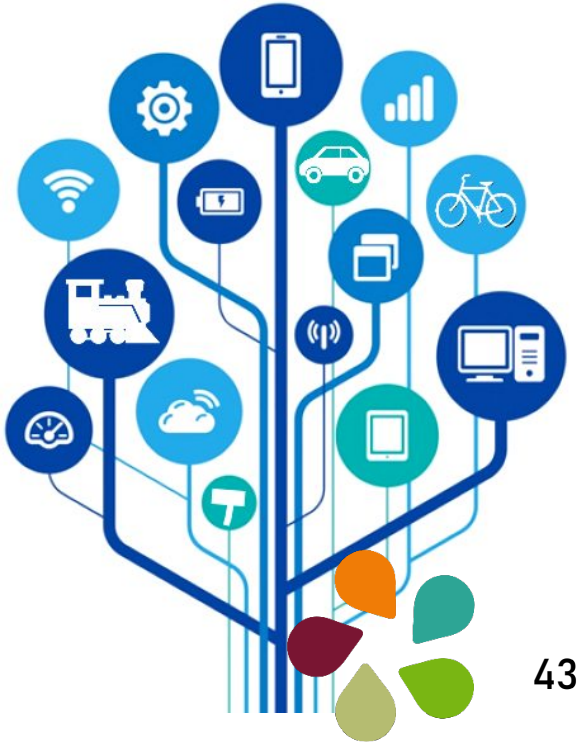
Second Stage (2019/20)

- Web platform will compute in real time the specific journey time in the two modes based on any source and destination points. The engine will be configurable by:
  - setting mode-specific constraints (no more than *XX* km. on foot, *YY* km. by bike, or even by car - when fully sustainable option may not exist, first few miles by car could allow connection to public transport network)



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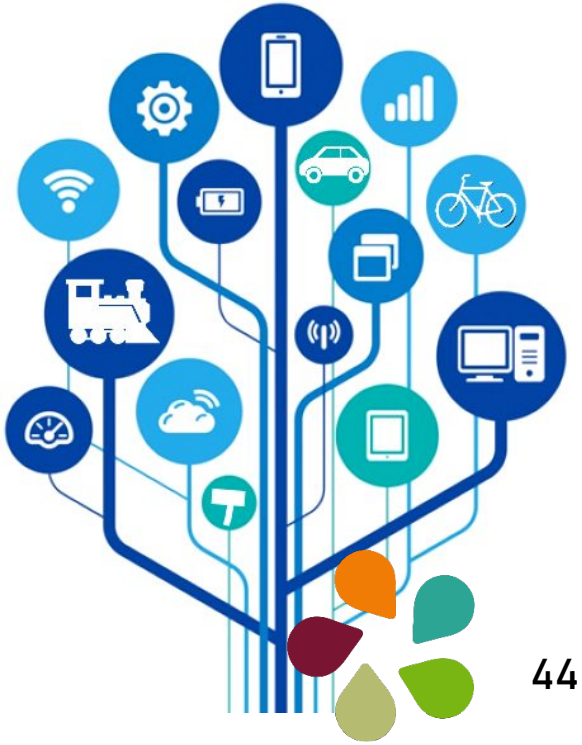
  - specific travelling hours during the day
  - possible constraints on number and timing of intermediate connections



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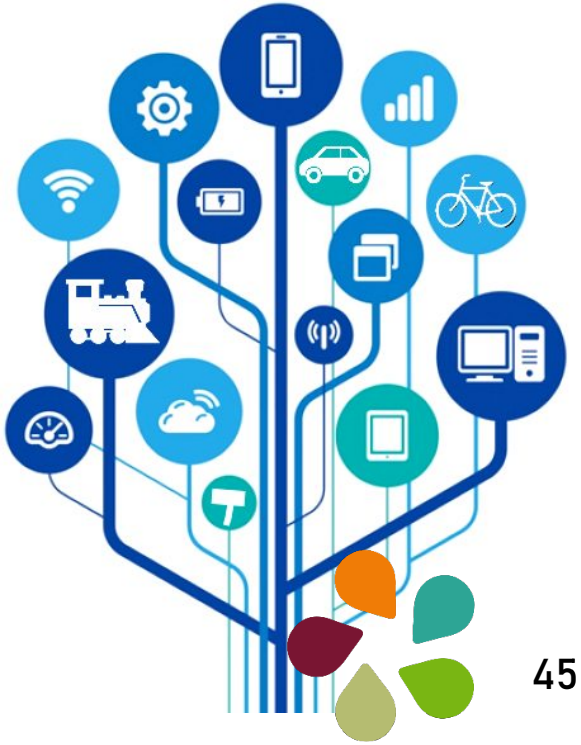
  - possible constraints on number and timing of intermediate connections
  - algorithm will not involve travel times only, but examine comfort and ease of the sustainable travel options:
    - length and mode of the first and last stretch
    - number and length of transfers for intermediate connections
    - their timing compared to "ideal" connection time (e.g. too risky if under 10 minutes, too long if above 15 minutes)



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  - the involved transportations services running frequency during the whole day or for particular time frames could also be taken into account.

Bike Sharing: *a part of the students' package*

A successful service, with a bright development outlook

- Special cheap fares for all students offered on enrolment
- Both *station based* and *free floating* services
- In-depth data analysis on how the service is used by the academic community and citizens at large

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UniTo incentives for smart mobility

For students

GTT GRUPPO TORINESE TRASPORTI

TRENITALIA GRUPPO FERROVIE DELLO STATO

Month or semester long passes discounted for students up to 29 years

All tickets can be uploaded and used on a single smartcard

for staff

GTT GRUPPO TORINESE TRASPORTI

20% refund of monthly Bus pass

TRENITALIA GRUPPO FERROVIE DELLO STATO

20% refund of monthly Rail pass

All tickets can be uploaded and used on a single smartcard

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Infrastructure: *fast, easy & safe cycling routes to the academia*

Working with public administrations to help plan a better network of cycle routes between linking university sites and the main transport hubs

- Many students attend/faculty teach courses in different university sites
- Turin has a large population of students from the whole region – linkage with the 4 main rail stations is crucial

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- Turin has a large population of students from the whole region – linkage with the 4 main rail stations is crucial
- Verifying the efficiency and usability of tram/bus routes to the main campuses
- Cooperating with public authorities, advocacy groups like FIAB, other institutions to help define the best routes and the right mix of protected lanes, signposting, traffic moderation to ensure smooth, safe cycling

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Infrastructure: *keep an eye on what is being done*

Bike lane from the centre to the Law/sociology Campus

- After 8 years the bike lane was at last completed!!
- Some details far from ideal
  - Two-way bike lane with no phisycal protection side by side with heavy traffic road with cars and bicycles coming opposite ways rubbing shoulders
  - Stopping space for vehicles right on bike lane, not before

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Events and workshops: *spread the news on mobility*

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Bike2Work project: *strong partner and competitor*

Co-sponsored with

- Piedmont region
- Turin metropolitan area
- Turin city council

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Video production: *exploiting the smartest media*

A news video for the launch of the new Smart mobility UNITO WebSite, shot in the historical Rectorate building courtyard

A national television news video for the bike2work campaign, shot directly on Campus

A video showing students starting their journey with ToBike sharing scheme

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