



TELEO, Toulouse's urban cable car

Two years after commissioning, a focus on best practices

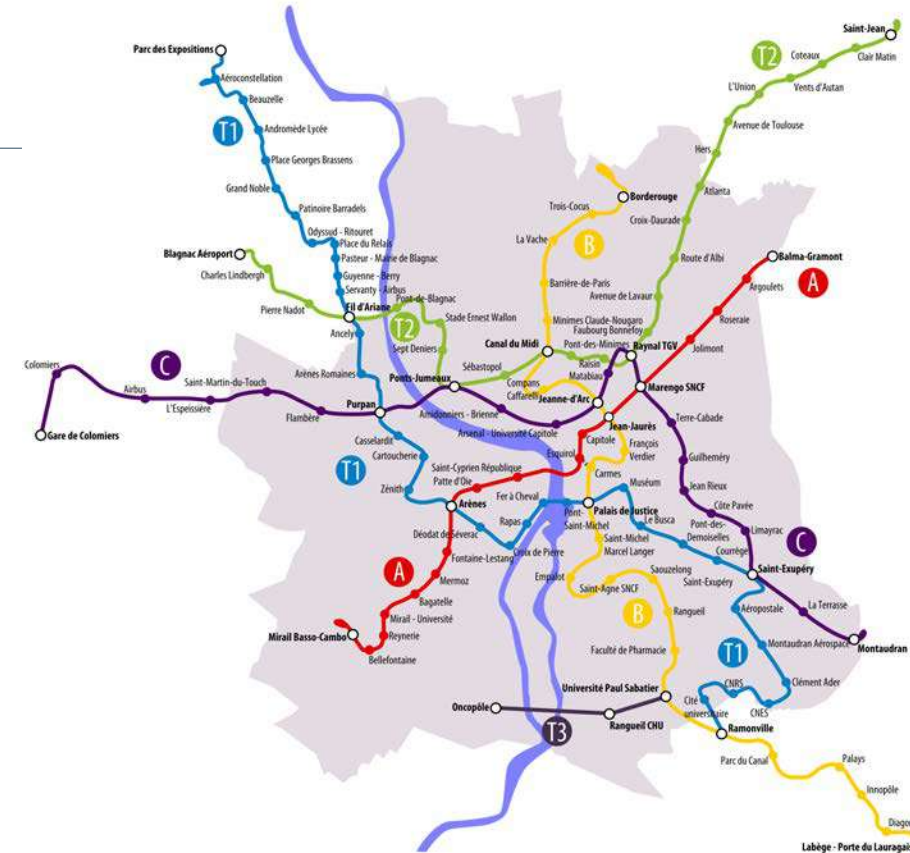
Patrick VIAL – Tisséo Collectivités – France

TELEO : from an Idea to a programm

TOULOUSE : some figures

- City** : approx. 500 000
- Métropole**: plus de 800 000 resident, 37 cities
- Travel plane area**: > 1 000 000 hb
- French population's ranking**:
 - 20 ieme in density
 - 5 ieme biggest metropole
 - 3ieme public transportation network
 - 1ere rate of resident growth(+13 000/year)

=>A challenge of organizing urban développement around the construction of public transport



Tisséo Network:

- 200 millions de validations/ye, +500 000/year
 - 27 kms métro/ 116 trains
 - 17 kms de tramway, 28 trains
 - 1520 kms of bus lines, 760 buses
 - 1 cable car« Téléo »
- A future third line of métro (+ 27 kms) end 2028

TELEO: the story of urban cable car in Toulouse



- With 3 kms length, Teleo is the longest urban cable car in France; it's also one of the only cable car in Europe, fully connected to a public transportation network, without extra cost.
- With 1,6 million travelers the first year, Téléo is the subject of numerous visits for new French and international cable car projects.
- The story began with the AZF Industrial catastrophe in September 2001 and the wish of the mayor of Toulouse to requalify this place.
- Replacing the old chemical industrial site, health and cancer research centers are planned (2004)

TELEO: conception and strategy : studies

How to link with heavy capacity public transportation network :

- The new health research center of Oncopole (5 000 jobs)
- One of the most important Hospital (Rangueil , 230 000 medical consultation/year and 64 000 admision)
- The scientific University of Paul Sabatier (27 000 students, 4 000 jobs)



SCENARII

- Orange : a double tram line from Oncopole to metro A/B
- Violet : a single tram line to metro B
- Blue : a high frequency bus line on its own site
- Red: a cable car crossing to metro B

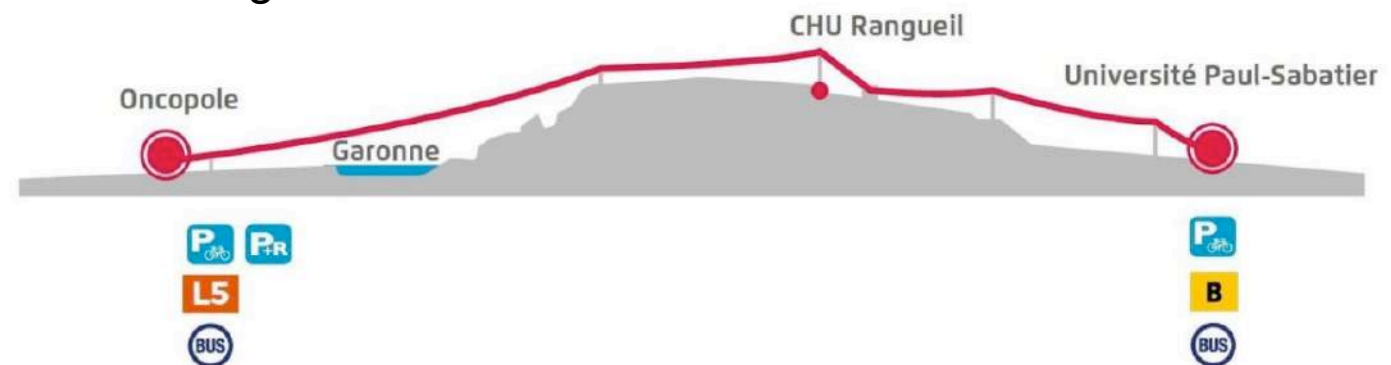
TELEO : conception and strategy : the choice

All tram and bus solutions needs heavy infrastructure Investment (bridges, tunnels, ...) and urban or streets requalifications, and have to deal with pick hour of traffic.

A particular topography shows that cable car is the obvious solution

- › To cross Garonna river and natural obstacle-natural area to be preserved and control of the environmental impacts
- › Direct way–100% in dedicate site , travel time guarantee
- › Cost adapted with needs

2001/2004: requirements
 2006/2008: scenarii studies
 2008/2012: first design and public meeting



TELEO : from the idea of cable car to the investment programm

PROGRAMM

Description as part of the « south belt » of Toulouse Public Transportation network
 Three stations for Oncopole, Rangueil's Hospital, Paul Sabatier University
 The choice of cable car technology is open , (one, two or three cables ..)



**Forecast
8 000 travelers / day**

will be « on » 350 days /year
 rate of availability :99,35%
 Wind stability
 Operating 5.15 am to midnight



TELEO : conception & realization

TELEO : routes and technology choice

2012: first design, benchmark, project management assistance
 2014: adoption of investment program, three stations, three kilometers from Oncopole to Paul Sabatier University via Hospital

2016: call for tender for conception/realization/maintenance
 2017 : 4 candidates => POMA-Bouygues TP- Sequence-Systra-SETI –Altiservice

2017/2018: this tender allows to select routes and technology (2 or 3s) and concerted choices between project owner, companies and architects.

=> 3S System: 5 pylons up to 70m high

=> first négociations with inhabitants overlooked by the installation

- => Modification of the location of the station near the high scholl Bellevue
- => Amicable negotiation with owners of overlooked houses .



TELEO : concertation and administrative steps

2018/19: realization of administrative files with companies, success of the public enquiry (may 2019)

- only 1 reserve (check noise) and 4 recommendations (intermodality parking for cycle and cars, covisibility and quality air (industrial area), monitoring of ecological measures carried out, economic monitoring of operation and expansions)

July 2019: go for work !



TELEO – 2019/2022 - works



TELEO – towards commissioning on may 2022

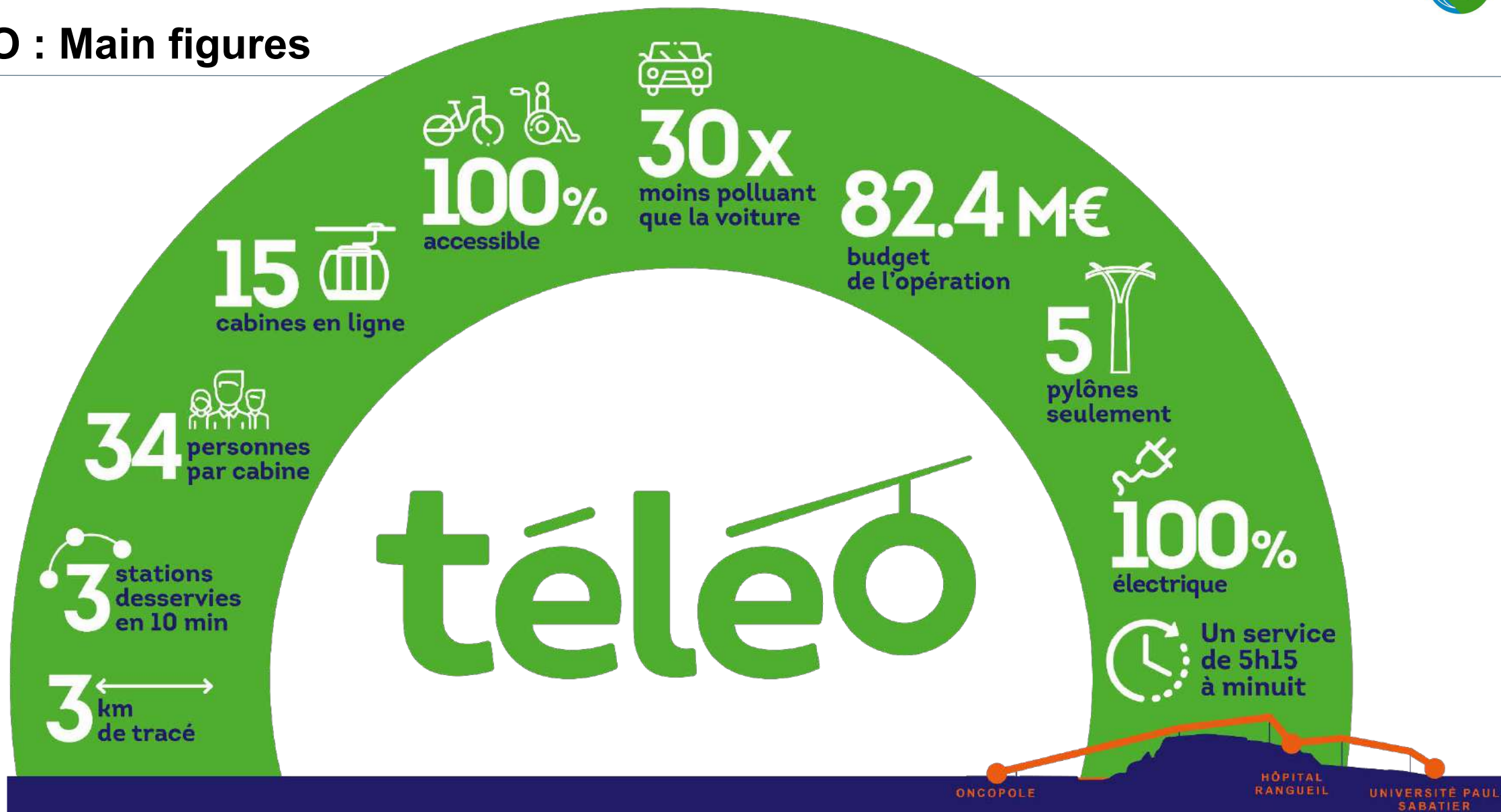


Friday 13....May 2022



TELEO : innovations for urban use

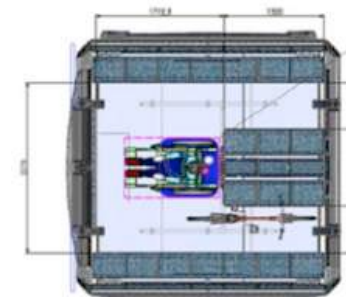
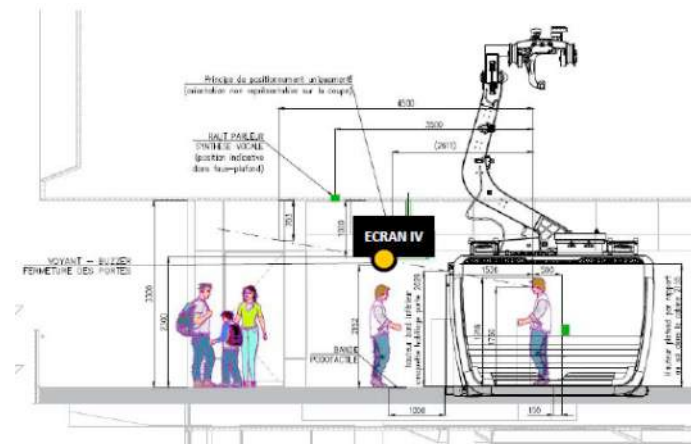
TELEO : Main figures



TELEO : consultation all along the réalisation....

Accessibility :

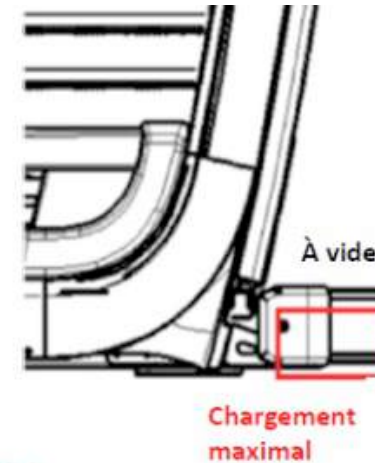
- Validation of access ramps to stations
- Validation of guiding lines on platforms
- Validation of boarding location, travelers information screens
- Définition of needs for assistance systems for disabled people (deaf, blind, other trouble of stability or cognitively ..)
- wheel chair location and way to board / disembarking



TELEO : concertation and administrative steps

Adaptation of regulations :

- ➔ Gap between platform and cabin :
 - override to allow some times negative spacing vs boarding with the smallest positive possible gap.



①
Lacune exclusivement positive
Strict respect de la réglementation
Lacune à vide = 38 mm

②
Lacune optimisée
Valeur maximale lacune : 20 mm
Cas de chargement impliquant une lacune négative de 10 mm : situation exceptionnelle
Cas ultime « cabine pleine + 1 UFR » : - 15 mm

Adaptation of acces :

- ➔ Pedestrian path to hospital
- ➔ Park and Ride offer with « depose minute », secure bike parking..



A constant cooperation between all the actors to promote a successful commissioning

TELEO : essential technological innovations

Public transportation requirements :

- Real time location system for cabins => real time multimodal information system
- Sound and light system on platform, for visually impaired or deaf people
- Underline automatic fire detection system, as a lot of trees have been conserved.
- Deployment of a large number of cameras compatible with urban safety
- Permanent link (sound , CCTP and Travelers information) between cabin and ground.



TELEO : after commissionning...

TELEO : first lessons of the exploitation

2022 :

- Some breakdown on beginning but a good rate of service > 99,3 % (and 99% for lift) => due to a too discontinuous pre exploitation period.
- To choose how to decide on priorities between light intervention and exploitation
- Low cases of hard wind – some stops for thunderstorm
- To learn how to react with real life of system.

But a very efficiency operating team, a mix of with Tisséo and Altiservice/POMA technical teams



TELEO : attendance and rating

An attendance in line with forecast

- about 5000 à 6500 travelers/day at launching in Mai 22, 1 000 000 travelers at the end of 2022, a day peak of 22 000 travelers a special attraction day , about 1.6 millions travelers /year.

- a notable touristic attraction and peaks with summer time

- a panoramic view of the city

- the creation of round trip ticket for Teleo.

- open paiement (credit card) now on (2024)

- source of inspiration for outdoor escape game and novelists

- the best rating of the network in terms of quality of service 2023



TELEO : new challenges ...

- improvement of maintenance ranges for a very busy system
 - realization of the shortening of traction cable <2 ans
 - need to carry out a lot of task in short nights or during the only ten day shutdown.
 -
- Energy optimization in off peak hours...and CO2 calculations
- Extension studies to join the metro line C to the Est and the line A to the West.

Anyway, this project was

A project under spot lights

A stimulating confrontation of the cultures of mountain cable transport and urban public transport



A progressive evolution of mentalities from a « wacky » project to strong support from public users





**Thank you for
your Attention!**

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