



# Limits to tourism ? A backcasting scenario for a sustainable tourism mobility in 2050

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Tourisme Transports Territoires

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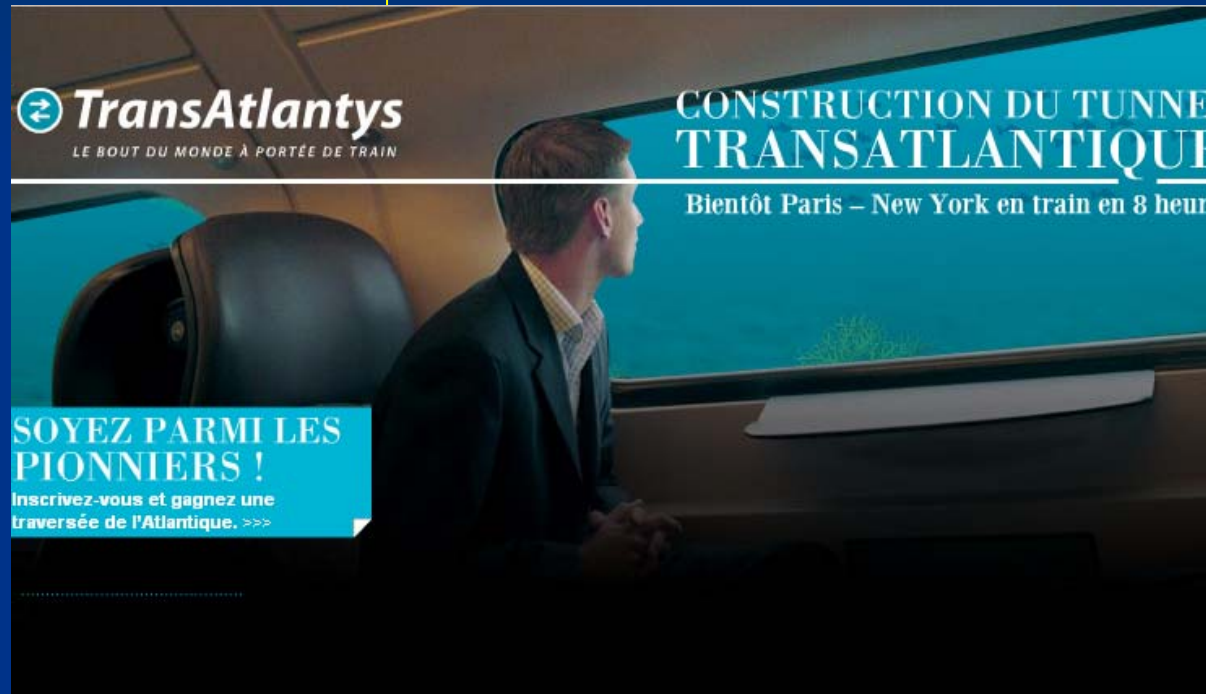
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## Introduction

- Methods
- Results
- Discussion

## Conclusion





# Introduction : the fantasy of travelling

# 1930's- 1980's : Mobility and accessibility



# Comfortable, isn't it!

Comfortable n'est-ce pas...  
disent les Anglais en parlant de la Dauphine.

Et c'est le plus beau compliment  
qu'un Britannique puisse faire à une voiture.

Ce que demande un Anglais à sa voiture,  
c'est avant tout ce confort discret,  
soigné et minutieux qu'il aime retrouver dans son «home».

Dans ce pays où une marque étrangère  
acquiert difficilement droit de cité,  
25 000 Dauphines ont déjà fait,  
par la douceur de leur suspension Aérostable  
et tous les détails de leur confort intérieur,  
la conquête des connaisseurs les plus exigeants...

Et dans le monde entier,  
la Dauphine obtient le même succès.  
Elle est vendue maintenant dans 98 pays,  
en tête desquels tous ceux  
qui ont une industrie automobile prospère.

Cela signifie  
que des centaines de milliers d'automobilistes avertis,  
qu'on pourrait croire comblés  
par les constructeurs de leur pays,  
préfèrent la Dauphine.

## RENAULT

régle nationale



1er en France 3ème en Europe 6ème dans le Monde,  
produit chaque jour plus de 2000 Dauphines

ÉLECTION  
mai 1960



# Car values

**Méchante  
la 11**

**Renault 11  
Un fichu caractère.**





**1980's – 2005 :  
beyond the limits**

**The future of  
plane....**





# ...and beyond



Home

What is Virgin Galactic?

Why fly into space?

Who is making this happen?

How is this possible?

What will it be like?

When can I go?

News Updates & Press

Contact Us



English



中文



Français



Deutsch



## Beam Me Up - Space Travel For Beginners



The reason Virgin Galactic has become possible is thanks to Burt Rutan, who has taken the risk of funding the world's greatest aviation dream.

Rutan's vision for mass space travel was born in the early 1970s when space exploration never planned sending man into space. They foresaw that people would somehow get into space. The Cold War forced the hand of space development, so the space program was usurped for military development, so the space program was building - missiles.

Burt Rutan has gone back to basics and developed a number of designs that make sub-orbital space tourism possible:

Firstly, the technology to get people into and back from space cheaply and simply, using virtually no pollution.

The key to Rutan's design is a craft, which on its return to earth turns from a beautiful space glider that drifts back through the atmosphere without overheating. It then metamorphoses once a landing.

Cost is another factor to make space tourism of the moment not of the future. Burt adds

# The future of train....

**TransAtlantys**

LE BOUT DU MONDE À PORTÉE DE TRAIN

CONSTRUCTION DU TUNNEL  
**TRANSATLANTIQUE**

Bientôt Paris – New York en train en 8 heures

**JOUEZ PARMIS LES  
GAGNANTS !**

Participez et gagnez une  
traversée de l'Atlantique. >>>

... has some limits

Parce qu'on ne peut pas  
aller partout en train,  
**voyages-sncf.com**  
vous propose aussi  
de l'avion, des séjours...

AVION

SEJOUR

HOTEL

LOCATION DE VACANCES

WEEK-END ALACARTE



**voyages-sncf.com**  
plus loin que vous ne l'imaginez.

Les gagnants du concours permettant de gagner 5 A/R Paris – New York pour 2 personnes en avion seront prévenus par email. La liste des gagnants sera accessible sur ce site à partir du 18 juin.

# The future of cars ?



# Les Voyages Extraordinaires



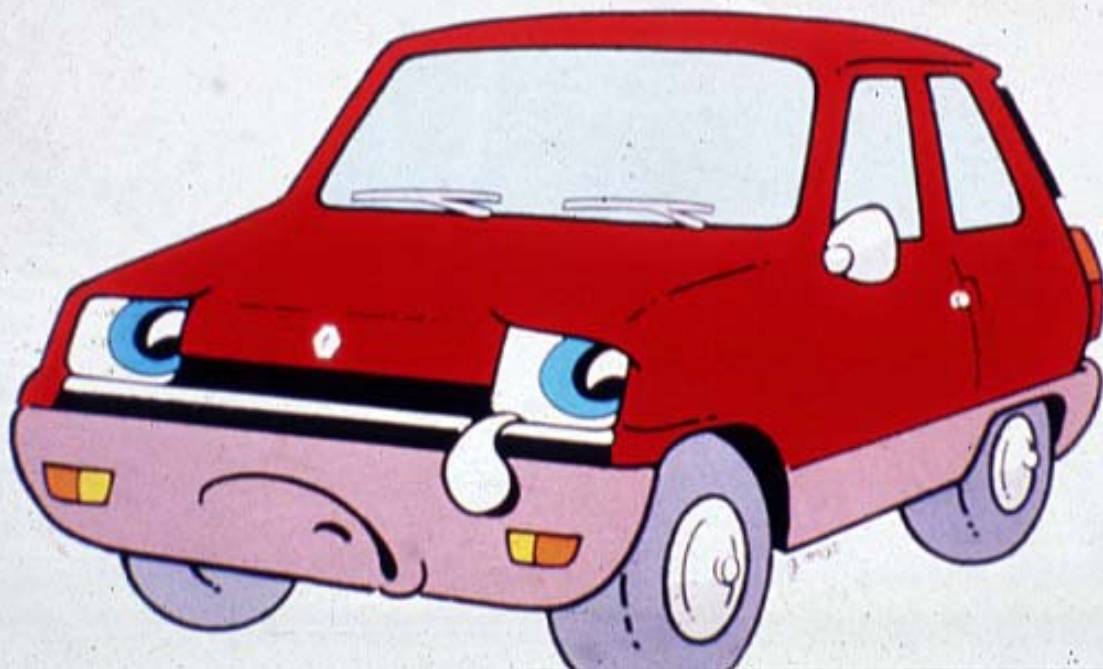
La Renault 5 



# Ma Renault 5 est une sorcière.



**Adieu  
monde cruel!**





- We entered an era of hyper mobility as a way of life  
 (“Espace, votre nouvelle adresse” , “vivre en voyageant”)
- Environmental issues seldom interfere with this contemporary fantasy of tourism mobility
- Are the current trends sustainable ?

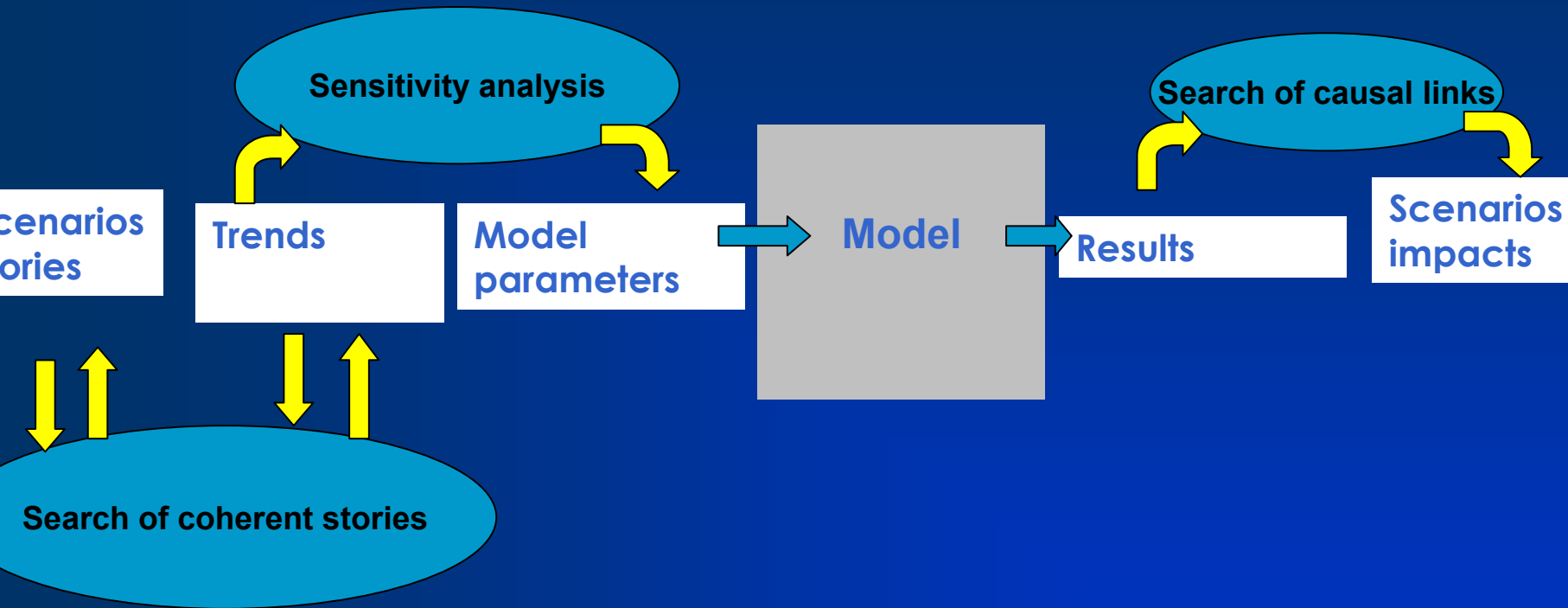


# Methods

# Elaborating scenarios : step by step

- Emerging patterns of household tourism/ leisure (T/L) mobility
- Modelling T/L transport demand
- Analysing factors for change (sensitivity analysis)
- Elaborating contrasted scenarios (forecasting)
- A sustainable development scenario (backcasting)
- Scenarios impact analysis

# A method for future studies



# Setting sustainability targets

	<b>WBCSD Objectives</b>	<b>Sustainable development scenario objectives</b>
1	Limit transport-related GHG emissions to sustainable levels	Include tourism transport in a factor 4 reduction strategy of GHG emissions in France
2	Narrow the « mobility opportunity divides”....	Increase the holiday departure rate
3	Preserve and enhance mobility opportunities for the general population of both developed and developing-world countries	The choice of a factor 4 reduction of GHG emissions leaves room for developing countries to increase their mobility
4	Ensure that the emissions of transport-related conventional pollutants do not constitute a significant public health concern anywhere in the world	The trend is to a reduction of conventional pollutants a) with the enforcement of European standards, b) with a reduction of tourism transport by road. An attention should , however , be paid to feed-back effects between GHG reduction and conventional pollutants
5	Reduce transport related noise	Stabilization or reduction of road transport in the scenario; concern about rail and air transport-related noise
6	Mitigate congestion	Stabilization or reduction of road transport ; concern about rail and air traffic congestion
7	Significantly reduce the total number of road vehicle-related deaths and serious injuries	a) Stabilization or reduction of road transport compensated by less hazardous collective transport
		b) Improvement of road security measures (speed limitations...)

# Greenhouse gas (GHG) emissions : the factor 4 constraint

- Tourism mobility GHG emissions : 39 MT CO<sub>2</sub>-e in 2000
- 10 MT CO<sub>2</sub>-e should be allowed to tourism in a factor 4 perspective
- However, is the share of tourism in emissions to increase or to decrease (*debate*)
- Hypothesis : the share of T/L mobility in overall transport grows from 23% in 2000 to 30% in 2050

T/ L are “allowed” 13MT CO<sub>2</sub>-e in 2050 : a factor 3 constraint



# Scenario story

1	<b>Demographics</b>
1.1	<i>Increase of population</i>
1.2	<i>Ageing of population</i>
1.3	<i>Generational affect</i>
1.4	<i>Evolution of family structure</i>
2	<b>Economic conditions</b>
2.1	<i>Economic growth</i>
2.2	<i>Unemployment and precarity</i>
2.3	<i>Diminution of working time</i>
3	<b>International context</b>
4	<b>Transport technology and policy</b>
4.1	<i>Technology</i>
4.2	<i>Infrastructure choices</i>
4.3	<i>Transport pricing</i>
5	<b>The tourism market</b>
6	<b>Societies and lifestyles</b>
6.1	<i>Habitat</i>
6.2	<i>Cultural changes</i>

# Different kinds of hypotheses

- Take average trends (ex: demographics)
- Rely on hypotheses made in other scenarios (ex economic growth)
- Situation does not change (ex:international security context)
- Technology: very serious changes, but not another novel by Jules Vernes
- Lifestyles: a new look on travel and the home



# Synthesis of hypotheses

- **the** strong investment in environmentally friendly ground transport **mode, especially the train;**
- the rupture in the attitude and behaviours towards very long distance mobility **and air transport, which becomes an exception, but whose content and value in term of well-being is increased;**
- **the** substitution / compensation of this loss in very long distance mobility with short distance mobility and more attention granted to local environments.





# Results

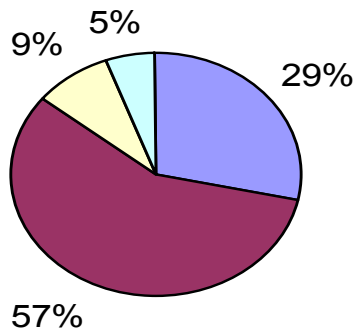
# Evolution of tourism/ leisure mobility

- 34% more passenger km than in 2000 (less than half of the central scenario)
- very long distance mobility (air transport overseas) remains at the same level but its repartition is fairer
- long distance mobility decreases, with 0,67 trips per year and per person (1,2 in 2000)
- this loss in long distance mobility is compensated by an increase in outings (3,7 per person against 1,99 in 2000)
- bi-residential mobility remains more or less the same
- short distance leisure mobility (near the home) doubles in 2050

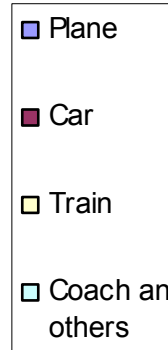
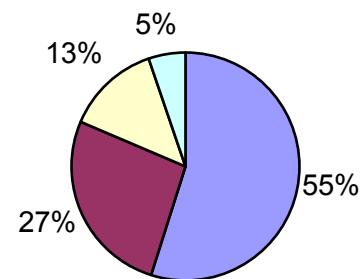


# Modal split of passenger.km

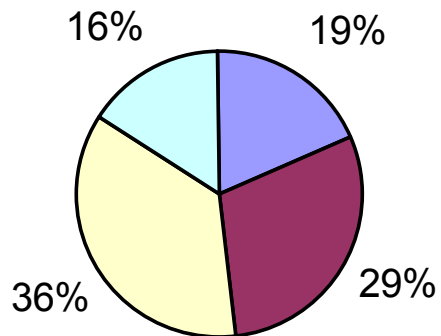
## Year 2000



## Central scenario



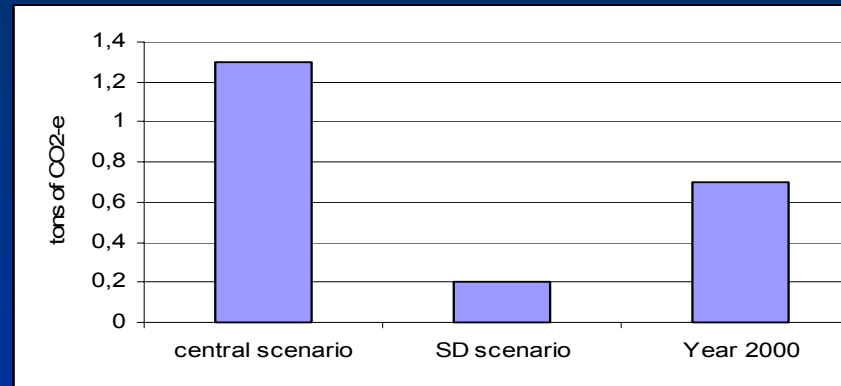
## Central scenario



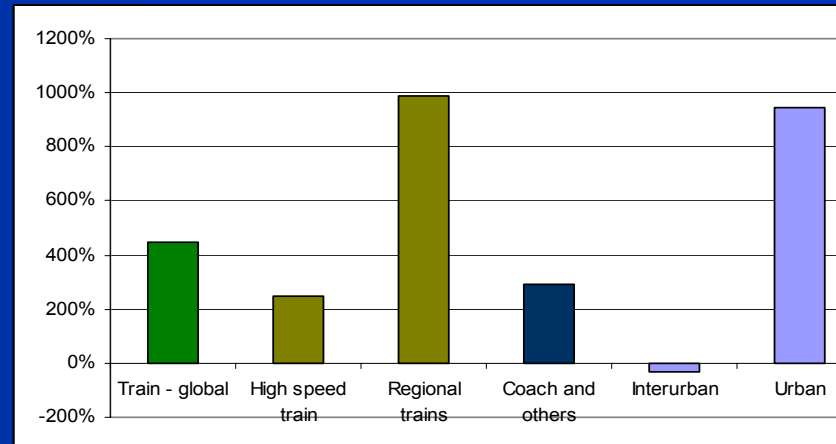
# Is the scenario really sustainable ?

- **Climate change**
- **Access to leisure and travel** : *The departure rate reaches 71% (against 68% in 2000)*
- **Noise and congestion** : *a problem with the train...*
- **Conventional pollutants** : *watch trade offs*
- **Security of transport**

**Tons CO2-e per person per year**



**Evolution of p.km per type of traffic 2000-2050**



# Conclusion

- The respective weight of technological progress and of the action on demand
- Other SD scenarios could be built, but they would not be much softer
- Is it such a dim future?
  - ✓ With this scenario more people take holidays than now but for longer stays and less often. A more significant part of the population can go to exotic destinations, but it is now an exceptional experience in one's lifetime. In short the hyper mobile minority must refrain from traveling as much as it desires (but they still manage to travel), the majority of the population has to change some of their habits, but to a large extent gains in local leisure can compensate less long and very long distance tourism, and the lower income people are rather better off as regards tourism.
  - ✓ In our sense this is far from being the end of tourism.

