

## Thesis proposals

- **Demand structure and spill over: the case of Linate temporary closure**

The thesis will investigate how demand on Milan –Rome split among alternative airports and transport mode due to Linate closure (spatial spill over), the depression effect on the demand and how supplier (airlines companies and train operators) reacted to this thread/opportunity

*Supervisors' team: Paolo Malighetti, Stefano Paleari, Sebastian Birolini, Mattia Cattaneo*

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- **The potential role of A320 neo at Amsterdam and Fiumicino**

The thesis will investigate the role of A320 neo at Amsterdam and Fiumicino network; a thesis now close to conclusion identified the routes on which A320 neo could play a role. Now by employing a network scheduling approach the new work we will try to estimate the prospective fleet of A320 to be based at the 2 airports.

*Supervisors' team: Paolo Malighetti, Sebastian Birolini, Renato Redondi*

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- **Machine learning and delays**

The thesis will compare traditional and machine learning technique to study delay probabilities (causes, propagation) in the air transport industry.

*Supervisor's team: Mattia Cattaneo, Sebastian Birolini, Paolo Malighetti, Fabio Previdi*

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- **Machine learning and pricing**

The thesis will use machine learning technique to set up an optimal pricing curve base don simulated demand

*Supervisor's team: Renato Redondi, Mattia Cattaneo, Chiara Morlotti*

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- **New hub location problem: where Ryanair should introduce and facilitate interconnection**

The thesis will analyse within the intricate network of point to point routes offered by Ryanair where to promote and facilitate self connection

*Supervisors team: Sebastian Birolini, Mattia Cattaneo, Renato Redondi*

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- **Predatory Pricing and airline route exit**

The thesis will analyse pricing behaviour of the incumbent on router where we observed airline exit

*Supervisors team: Renato Redondi, Nicolò Avogadro*

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- **Fare model estimation in the aviation industry**

The thesis will analyse available model to proxy average fares applied on aviation network and it develop an updated estimation model

*Supervisors team: Renato Redondi, Nicolò Avogadro, Chiara Morlotti*

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- **Hub carrier behaviour**

The thesis will analyse the intrinsic contribution that feeding routes generate on the hub carrier network and the effects of dropping some of them

*Supervisors team: Renato Redondi, Mattia Cattaneo, Paolo Malighetti, Sebastina Birolini, Chiara Morlotti*

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- **Departure time flexibility and congestion effect**

The thesis will set up and submit a stated preferences survey in order to identify the willingness to depart from home earlier or later base on travel time expectation (assuming work activities can start as well earlier or later) and then simulate effect on a simple theoretical network

*Supervisors team: Paolo Malighetti, Sebastian Birolini, Mattia Cattaneo*

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- **Spot events and congestion in urban environment**

The thesis will study spot event in Bergamo and the effect on the urban congestion (it may includes real time traffic count observation)

*Supervisors' team: Paolo Malighetti, Sebastian Birolini, Stefano Paleari*

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- **Health related travel needs**

The thesis will set up and submit a stated preferences survey in order to identify the health related set of information that people would like to have (hospital location, emergency services, ecc) or to bring with them ( about their health status) when travelling

*Supervisors' team: Mattia Cattaneo, Paolo Malighetti, Stefano Paleari*

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- **Markov model applied to knee interventions**

The thesis will collect data related to Current interventions in the management of knee osteoarthritis in order to compare the economic efficiency by employing a markov model

*Supervisors' team: Paolo Malighetti, Chiara Morlotti*

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- **Reliability and impact of fare prediction tools**

In the context of air transport pricing, the thesis aims to fully comprehend how well fare prediction tools forecasts reflect reality and how consumers are influenced by their suggestions.

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- **Pricing strategies during important events**

The thesis aims to shed lights on the pricing strategies of transport and hotelling service providers during important events (e.g., important football matches, expo events, Olympic games, ...), evidencing differences with respect to normal timings and within different service categories (e.g., luxury hotels vs hostels, LCCs vs FSCs, extra-urban vs rail- transport, air-transport vs rail-transport, ...).

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- **Household values and transport infrastructures**

This thesis focuses on transport infrastructures, such as rail stations and airports, to access how their presence affect the value of houses located in the nearby.

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- **Train punctuality: delays and buffer times**

This thesis analyses the current Italian rail network to explore the service quality offered (in terms of punctuality) by both regional and high-speed trains. Delays and their possible propagation along the whole travel will be studied also in light of national strikes and weather conditions.

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