Operational Challenges of Dynamic DRT (Demand Responsive Transport)

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Résumé :

Since 2014, Padam Mobility develops dynamic Demand-Responsive Transport solutions (DRT and Paratransit) that improve mobility in areas with low population density. The mobility offer is more intelligent, more flexible and more dynamic. It is no longer based on fixed lines and timetables, but is built on demand and is continuously optimized according to bookings.

In this talk, we give an overview of Padam Mobility's optimization challenges by starting from the initial Demand Responsive Transport use-case and its modelling as the dial-a-ride problem. We then show how operational constraints and objectives coming both from the end-users and transport operators challenge this initial layout, needing to deal with unknown demand, stochastic travel times data and conflicting interests which trigger multi-criteria approaches.

We conclude on how our current R&D topics aim at tackling those challenges.