



Demand Response:

How cities around the world have responded to this global phenomenon

Nov 2017 | Mel Pecen, Managing Director, ANZ

Demand Response: How cities around the world have responded to this global phenomenon

Why DRT?

What is
DRT?

Customer
Examples

The
Future

Conclusion

DRT: A worldwide phenomenon



DRT: A worldwide phenomenon

2

More efficient
while meeting
passenger
expectations



Efficient



Today's customers are
more demanding

DRT: A worldwide phenomenon

3

Ecological
benefits



Reduce emissions



Encourage Modal Shift

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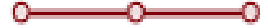
What's your DRT flavour?

Stop-to-
Stop

Virtual Line

Fixed route

- Pick-up timetables predefined or based upon demand
- Itinerary predefined or adjusted only to stops requested



Flexible Converging or Diverging

- Combination of stops with or without timetable constraints
- Itinerary defined by demand a few minutes before journey



Zonal

Flexible route

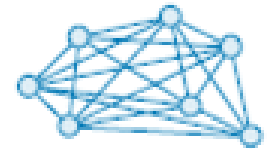
- Pick-up timetables defined or based upon demand
- Itinerary defined by demand
- Zones rules for pick-up and drop-off



Door-to-
Door

Origin to Destination

Used for transporting people with reduced mobility



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Demand Response

500+ installations across North America and Europe

Implementations in large & small Transit and paratransit providers including:



Small Clients with unique needs



passengers

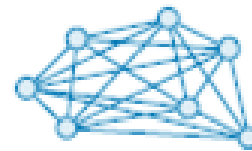


Large operators with in excess of 20,000 daily trip bookings





Door-to-Door Use Case: Mobil'Azur (Keolis Côte d'Azur)



Optimising services to meet growing demand without additional resources (France)

Concept:

- On-demand public transport service for people with reduced mobility in Nice and the Valleys of Tinée and Vésubie
- Operated by Keolis for Métropole Nice Côte d'Azur

Who can use it?

- Local residents and tourists
- Passengers must meet the eligibility requirements of reduced mobility

Benefits

- The service has been switched from individual trips to public transit operation reducing vehicle footprint
- The number of passengers transported collectively has dramatically increased
- Operating costs have reduced – less km's driven and less overtime

Mobil'Azur at a glance:



Area served: 27
boroughs inc. Nice



Clients serviced: 5,000



Vehicles: 25



Trips: 90,000 pa

“Our Demand Response solution is a real optimisation tool for on-demand transport. It has strong capabilities and gets the job done.”

Sonia Benouaret, Director, Keolis



Stop-to-Stop Virtual Line Use Case: Keolis Rouen Vallee De Seine



Optimising suburban public transport for efficiency (France)

Concept:

- Stop-to-stop on-demand alternative to fixed route in the outer suburbs of Rouen
- Services run only if there are bookings
- Operated by Keolis for Rouen Metropole

Who can use it?

- Local residents and tourists
- Passengers must be registered with Keolis as users

Benefits

- Flexible service: passengers can travel when they want and book on the same day
- Reduced the amount of empty fixed route trips
- Optimal operational efficiency: better passengers groupings and less km's travelled

Rouen at a glance:



Area served: 37 boroughs



Clients serviced: 50,000



Stops: 61



Vehicles: 30 (22 seats)



Wheelchair accessible



Bike Accessible

Stop-to-Stop Use Case:

moobil+ Call-A-Bus LK Vechta



Securing mobility for all in the Vechta district (Germany)

Concept:

- A district-wide dial-a-ride bus system
- Connects remote villages with town centres; can also act as a feeder bus to rail stations
- Innovation Project funded by State of Lower Saxony

Who can use it?

- All residents – simply book by telephone, online or in person
- Registered users can use mobile ticketing, stop-to-door service and ridesharing option
- Connect to regional rail stations

DENA+ Awards:

- 'Best Concept' for Most Efficient Mobility in Rural Areas by DENA (Deutsche Energieagentur)
- Runner-up for Best District-Wide Concept in Municipal Transport Management (National)

Moobil+ at a glance:



Area served: 812km²



Residents serviced: 134,000



Vehicles: 14 x 8-seater buses



Bicycle-friendly



Wheelchair accessible



Stops: 521



Routes: 16



500 Calls/day

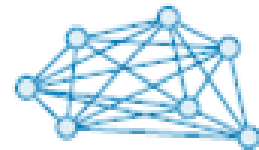


moobil+





Door to Door Use Case: Strathclyde Partnership for Transport



MyBus (Scotland)  **MyBus**
Getting you around

Concept:

- Door to Door
- Can book up to 2 hours before trip
- Driver can assist pax to board & disembark
- On line & Call Centre bookings
- Normal bus service fares

Who can use it?

- Anybody
- Book prior to trip for Door to Door Service

MyBus at a glance:



Years: established: 20



Trips: 500,000 per year



Vehicles: Variable



Low Floor, Wheelchair
accessible

“The service opens the world up for a lot of people by enabling them to do things they wouldn't otherwise be able to...It's about making transport accessible...”

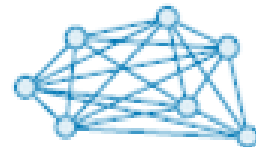
John Knox, Demand Responsive
Transport



Washington Metropolitan
Area Transit Authority



Large Urban Demand Response Operators



Metro Access: Paratransit Demand Response Services

Concept:

- Transportation assistance for those that cannot access fixed route services.
- Mandatory service required for those approved to ride.



Total trips/year: ~2.4m



Patients registered: >150,000



Vehicles: Variable



Pax: >2.6m per year

Who can use it?

- Anyone certified as an 'in need individual' under ADA and living within ¾ mile of a fixed route service.
- The patient must have a physical or emotional need for service

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The Future

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The Future of DRT

Real-time capability



Inter-authority
services across
jurisdictions

Connections to fixed route
services



A single solution for
DRT and fixed route

Autonomous vehicle
integration



Delivering Demand Response via Autonomous Buses



Centre of Excellence Neuhausen, Switzerland



- First integration of an autonomous vehicle in an AVL system
- First/last mile integration with existing services
- Integration with a taxi system
- First integration of an autonomous vehicle and a depot management system



Integration of shared car to enhance demand response service in the U.S.



- Unifies public-private transportation.
- Transit agencies use software to schedule rides on the Lyft platform
- Decreases the Costs of Paratransit Service
- Ensures Equal and Accessible Transit for All Passengers
- Expands mobility options to paratransit passengers
- Riders have a new option to get to where they need to go, faster.
- Offers passengers the most efficient and cost-effective transportation option.
- Provides accessibility, equality & better customer experience.

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DRT comes in many flavours



**Addresses
customer needs**



**Reduces
operating costs**



**Improves
environmental
impacts**



**Helps make PT
more attractive**



Thank You

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