Demand responsive transport

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Tanja is a German citizen with work experience in the transport planning sector in Germany and New Zealand. The content of this paper is based on her experience in both countries.

In areas with low public transport demand or during off-peak hours when passenger numbers are low, demand responsive transport is a cost-effective option. They can complement or replace existing fixed route services and typically use smaller vehicles such as minibuses. Passengers can book a ride either online or via the phone. While some services apply an additional fee for using on-demand transport, others only charge the standard public transport fare (Sommer, Schäfer, Löcker, Hattop, & Saighani, 2016).

There are different types of demand-responsive transport. Zonal on-demand services don't have fixed routes/stops or timetables and provide a door-to-door service within the service area. Figure 1 shows the concept of zonal on-demand services. There are no fixed start or end points, and the vehicle only stops where requested by passengers.

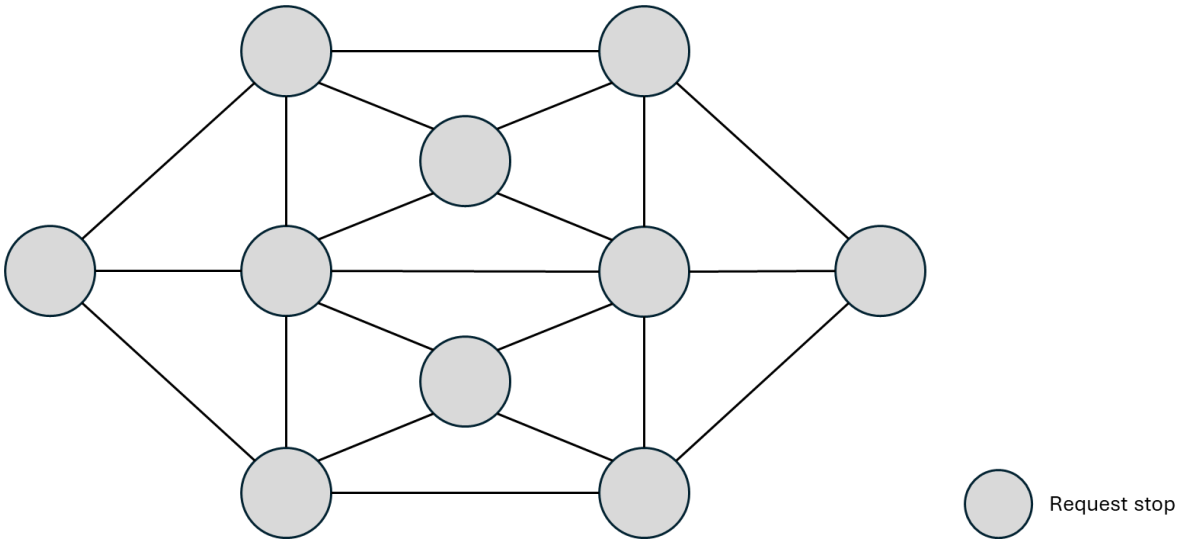

Figure 1: Zonal demand-responsive transport, own illustration based on Sommer et al. (2016)

Several cities in New Zealand have implemented such services to complement or replace the existing public transport network. MyWay in Timaru in Canterbury is a zonal on-demand service that serves the town of Timaru. It replaces the former fixed bus routes which were underutilised (Radio New Zealand, 2020). It runs seven days a week between 6 am and 7 pm. Passengers can book the service via an app, the phone or in person at several businesses. The algorithm then matches their ride with other passengers going to similar destinations and provides them with the pick-up time and location (Metro Timaru, 2025). MyWay started with a trial period in 2020 and was made a permanent part of Timaru's public transport network in 2025. Passenger numbers have hit a new record since the implementation of the MyWay service with 267,000 passengers in the 2023-24 financial year (Environment Canterbury, 2025).

Figure 2: MyWay in Timaru (Metro Timaru, 2025)

There is also a MyWay service in Hastings in Hawke's Bay. This works similar to the MyWay in Timaru. This service will be discontinued in 2026 due to high operational cost compared to the previous fixed bus route services. Low patronage and therefore low revenue meant, it was not meeting its targets (Hall, 2025). New permanent fixed bus routes will take its place again (GoBay, 2025). Hamilton provides a demand responsive transport option on Friday and Saturday nights.

The "Schaddel" in Kassel, Germany, is a zonal demand responsive transport that operates at night between 10 pm and 5 am in the Kassel urban area. It complements the fixed bus routes which run infrequently at night. Similar to the MyWay in Timaru, bookings can be made via an app or via the phone (Kasseler Verkehrs-Gesellschaft, 2025).

Figure 3: "Schaddel" in Kassel (Siemon, 2022)

Other demand responsive transport options are services that have a fixed route and timetable but only operate when booked by passengers. This is shown in Figure 4. While there are no fixed start or end points, the direction of travel is fixed. A different concept is to have a fixed start and end point but the route in between those two points is flexible (Figure 5). These services are often used during off-peak hours in addition to regular bus services. There are currently no such services in New Zealand. However, this type of demand responsive transport services is popular in Germany. Rural areas with low demand and patronage use fixed route services as their primary public transport. In towns and cities these services are provided during off-peak hours such as early mornings or late evenings when demand is low. Passengers need to request the service in advance, usually via phone.

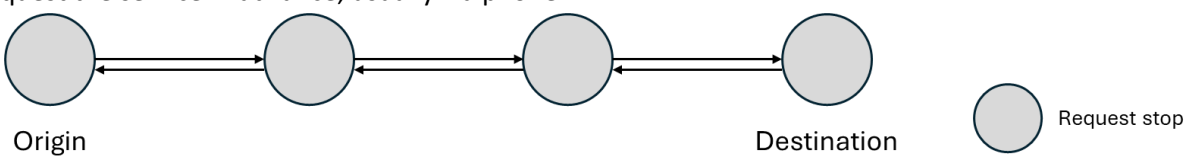

Figure 4: Fixed route on-demand service, own illustration based on Sommer et al. (2016)

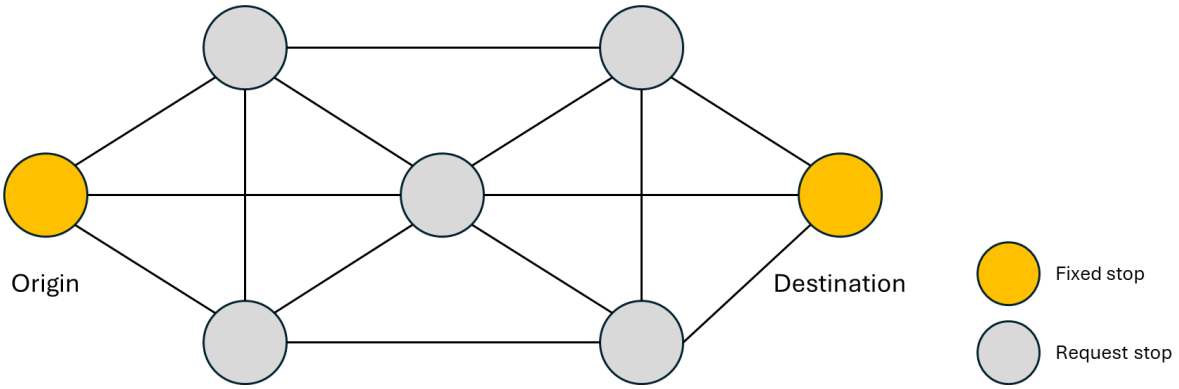

Figure 5: Directional demand-responsive operation, own illustration based on Sommer et al. (2016)

The “Bürgerbus” in Germany is a demand responsive transport service run by community volunteers. This reduces the operating costs substantially. Other costs are covered by state and private funding. The service is often provided in rural areas and offers connections to the wider public transport network. While “Bürgerbusse” usually provide a fixed route service, they can be implemented as a demand responsive transport as well (Nahverkehrsgesellschaft Baden-Württemberg mbH, 2025).

As demand responsive transport offers flexible door-to-door services and improves social inclusion and accessibility, it might be confused with the services of the Total Mobility scheme in New Zealand. But the two services are quite different. The Total Mobility scheme is only available for eligible persons with disabilities and provides them with subsidised trips in taxis and discounted public transport fares (New Zealand Government, 2025). Demand responsive transport is open for all members of the public and is part of a regions public transport network.

Which type of demand responsive transport is the best option depends on the demand, size of the service area and where people want to go. There is no “one size fits all” solution. To be successful the services need to be integrated with the wider public transport network. Benefits of demand responsive transport are positive environmental impacts due to the decreased use of private vehicles (Combined Mobility Committee, 2025) and improved access to public transport where a fixed route service would be difficult to implement (Waka Kotahi NZ Transport Agency, 2023) or cannot meet minimum financial performance thresholds.

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