

VIKEN BEATS THE RUSH

WRITTEN BY
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How to use the available area smartly to enable **priority of public transport** without building a new physical public transport lane?

Viken County Council is working on a pilot project to answer this questions!

In Viken County Council, Norway, various areas have long grappled with traffic challenges, especially during the morning and afternoon rush hours. While the temptation to forge new public transport lanes looms large, the path to practicality and cost-effectiveness lies elsewhere. For this reason, Viken County Council is on a mission to explore innovative strategies that make the most of the existing infrastructure while prioritising public transport. The Council aims to gain hands-on experience by experimenting with various traffic management techniques to enhance bus accessibility without the need for costly new lanes. One intriguing approach under consideration is a signal-controlled bus lane, allowing buses to efficiently bypass car queues by using the opposite lane. This initiative is all about finding smarter ways to keep traffic flowing smoothly during peak hours.



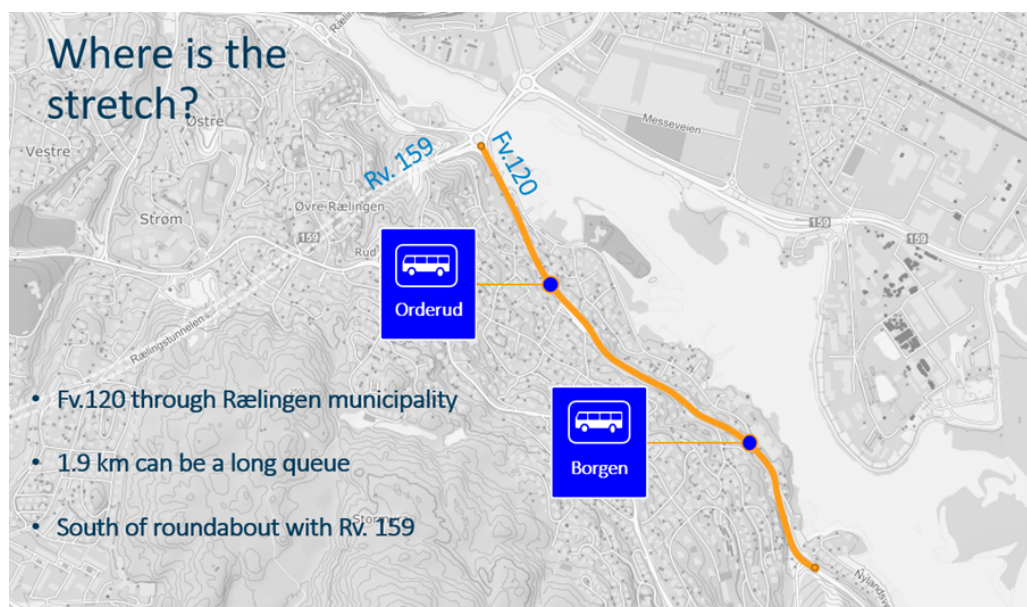
Morning rush hour on Nedre Rælingsvei Street

Ellen Patricia Coats, Viken County Council

Tackling bottlenecks in Rælingen

One significant challenge regarding bus delays is found in Rælingen municipality. Consequently, Viken County Council intends to conduct a pilot project on a section of Route 120, specifically Nedre Rælingsvei Street. While the project is in the municipality of Rælingen, it also has an impact on the municipality of Lillestrøm, in proximity to the Norwegian capital Oslo. The roundabout connecting National Road 159 and County Road 120 is a capacity bottleneck for Route 120, leading to traffic queues and complications related to bus priority during the morning rush hour. These issues result in bus delays of up to 10 minutes during the morning rush, as buses travel slowly among other private vehicles. Given that the challenge primarily occurs during the two-hour morning rush, Viken believes that the proposed solution has the potential to be highly beneficial and sustainable.

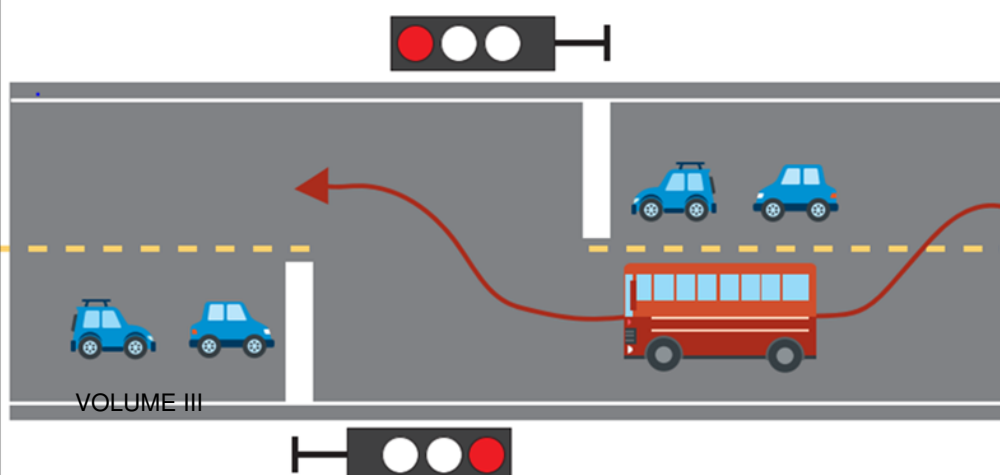
The concept for this measure involves the establishment of a system on a section preceding the bottleneck. With the aid of traffic signals, it halts car traffic in both directions when a bus approaches the bottleneck. Once the oncoming lane is clear of cars, the bus is redirected into this lane, bypasses the queue of cars on this segment, then returns to its regular lane and proceeds towards the bottleneck. Road users are informed about the system through variable or permanent signs. The proposal for a trial project pertains to a segment situated between the Borgen and Orderud stops. This segment spans 170 metres, allowing the bus to drive past 15-20 cars.



The way ahead

For the first time in Norway, this concept will be tested; therefore, the newly proposed signs, signals, and traffic regulations must be developed in cooperation with the NPRA (Norwegian Public Roads Administration). The project concept was prepared in cooperation with the NTNU (Norwegian University of Science and Technology) as well as Sweco consultancy.

To ensure thorough preparation for the pilot project, Viken County Council addressed crucial phases, including transport analysis (Aimsun) and manual mapping testing, among others. Both studies indicated that the consequences are minimal for both traffic participants travelling in the opposite direction and those travelling in the bus' direction. It is crucial to emphasise that, for this project, the traffic in the opposite direction should not be so frequent that there would be significant consequences.



As part of the initiative's planning, concept testing was carried out using manual traffic control instead of road traffic signalling systems. The test was conducted in June 2021 and was executed without creating hazardous traffic situations. Traffic participants adhered to manual traffic control, with bus drivers being informed of the test in advance.

Additional test results include:

- Effective compression of the traffic queue that the bus passed, reducing the queue by 15-20 cars on the designated route;
- Minimal queuing in the opposite direction from Lillestrøm at the 'red light';
- The average duration of the 'red light' was approximately 01:45 (mm:ss) with bus priority;
- Prioritization led to relatively long queues forming upstream of the 'stopping point' several times;
- Traffic analysis and real-time data comparison during the test phase demonstrated time savings of one to two minutes on this short 170-metre section.

The pilot project is scheduled to commence in 2024 and will span one year. During the pilot phase, an external evaluation will be conducted to determine if the project aligns with expected outcomes and if permanent operation is justified. This will enable the project's escalation and industrialisation.

Conclusions

The implementation of proactive traffic management opens the door to exploring innovative, cost-efficient technological solutions in smaller urban areas. Prioritising buses emerges as a game-changer, substantially elevating the accessibility and desirability of public transport, thus positioning it as a formidable contender against private car usage. This strategic approach, combining bus prioritisation with proactive traffic management, not only streamlines infrastructure requirements but also trims expenses, including ongoing service and maintenance.

Beyond cost savings, this approach is a catalyst for reshaping travel habits and behaviour, promoting increased reliance on public transport, cycling, and pedestrian commuting. The cumulative impact of these changes is a remarkable enhancement in overall mobility and an upswing in bus accessibility.

Should the pilot project validate the insights from prior research, it holds the promise of extending this concept to other areas grappling with similar transport challenges. This sets the stage for a comprehensive, efficient solution that not only spurs mobility but also trims maintenance costs and curbs environmental pollution.

In essence, it is a journey towards a brighter, cleaner, and more accessible future of transport.



The current section of Nedre Rælingsvei Street features a physically separated pedestrian and bicycle path, enhancing the safety of road users in the pilot

Julija Glisovic, Viken County Council

Successful testing with manual routing in June 2021

Gry Norderhaug Løvhaugen

