

**Summary:**

# **The Lillehammer Travel Network**

## **A concept to simplify travel by public transport in the small town of Lillehammer and the surrounding rural district**

The report describes a proposal for a new concept for the public transport system in the Lillehammer region consisting of the three local authorities of Lillehammer, Øyer and Gausdal communes with 36,400 inhabitants. Of these, some 55 per cent live in the small town of Lillehammer and the rest in the surrounding rural district within some 30-60 minutes by bus from the regional centre.

### **Challenges and goals**

Future growth in population and car use in Lillehammer is expected to create significant traffic congestion on the roads and streets in central parts of the town. Because of this, and for environmental reasons, Lillehammer Local Authority and the Public Roads Administration want to encourage more of the traffic growth to be catered for by bus, cycling and walking.

In the rural parts of the region, the trend is very different. The population is decreasing and the average age is going up. This reduces the demand for ordinary bus transport, but increases the need for special public services and related transport. In the rural districts, and on parts of the local town bus routes, public transport service and capacity is determined by the school transport services that the local and regional authorities are required by law to provide. In addition to the bus services, various public bodies, including the public health authorities, are buying extensive transport services from the local taxi businesses. In fact, this public purchase is crucial for the taxi services' existence in the rural districts.

As elsewhere in the country, for the coming years one can expect a strong pressure on costs in public transport, due to increasing competition in the labour market, recent labour agreements, and the fact that significant improvements in efficiency have already been made during the last ten years. At the same time, the political authorities are concerned about getting value for money spent on the various transport services.

Additional challenges stem from the Government action plan for increased accessibility for the handicapped in all parts of society. Stricter requirements for so-called universal accessibility are being regulated by law.

Tourism is a major industry in the Lillehammer region. As part of its business strategy, the industry wants to have a better and more integrated public transport system. They want to be able to offer "seamless" travel from the Oslo region and the main national airport at Gardermoen, so that visitors to the region will be less car dependent than today. The second-home, cabin "villages" at Hafjell, Nordseter, Sjusjøen and Gausdal in the mountain region surrounding Lillehammer will also benefit from an improved public transport service as part of the tourist product of the region.

The political councils of Oppland County and Lillehammer Local Authority want to increase the number of public transport journeys in the region by improving service quality and efficiency, in order to improve the competitive profile of the region. Objectives include safe, reliable and environment friendly transport, accessibility for all, quality and ease of use, equality and regional development.

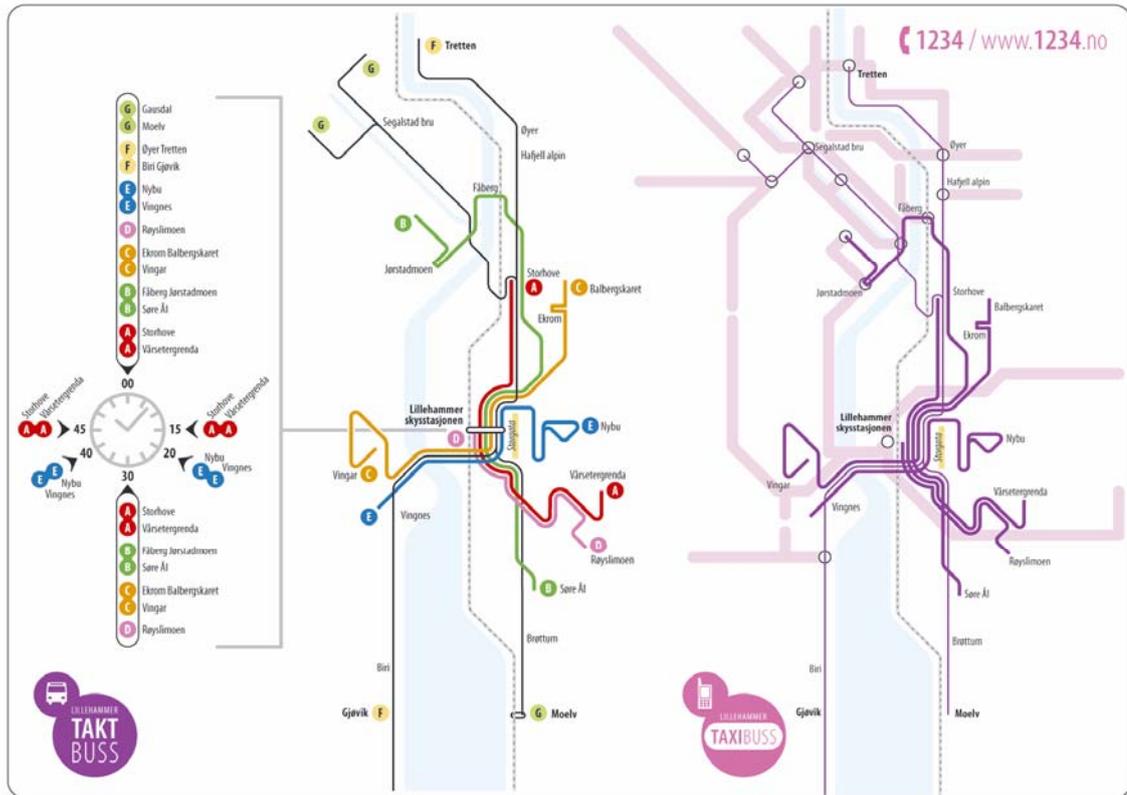
## **Simple to use for everybody**

The new concept is aimed at making travel by public transport as easy and simple as possible for everybody, whether they have access to a private car or not. Simplifying the system will remove as many barriers to public transport usage as possible, and make information and marketing of the system much simpler, in order to facilitate the recruitment of new customers. Even to keep up the present volume of traffic, new customers must continuously find their way to the public transport system. When increased traffic is the goal, making a more attractive and barrier-free travel network is even more crucial. Reducing waiting times and uncertainties about timetables and geographical coverage and fitting services to the customers' travel needs and activities are important aspects of service development.

## **A single, integrated system of scheduled and on-demand services**

The proposed concept consists of a combination of fixed, scheduled services and flexible, demand-responsive services which are coordinated into a single system which can cover as much of the transport demand as possible, including the public transport tasks designated by law. By considering all the different transport tasks within the same system, improved efficiency and higher service quality may be expected.

The fixed, timetable services cater for the heaviest traffic volumes through a system of lines operated according to the pulse principle with Lillehammer station as the coordinating meeting point and interchange. The demand-responsive services cover areas with weaker travel demand and public transport obligations that the scheduled lines cannot serve.



*Illustration of how the network of scheduled lines ("Taktbuss") and the demand-responsive services ("Taxibuss") may together form the integrated public transport service for the region.*

## Pulse scheduled and simplified line traffic

Based on the existing public transport network and local knowledge about the travel market, a scheduled network of lines with hourly departures or better is suggested for Lillehammer and most of the smaller village communities in the region.

Fixed hourly service is a simple operational model with considerable success elsewhere in Norway. It is suggested that this level of service can be achieved for all villages in the region, with some two thirds of the regional population.

By this concept the number of lines is reduced and travel opportunities are increased by pendulum lines that all meet at the same time with Lillehammer station and interchange as the hub of the regional network. All bus lines meet at the same time at a common central platform. This will make interchanges between lines covering all parts of the region as easy and simple as possible.

Departure frequencies will be increased on the most important route sections, and some lines will be improved by creating shorter and more direct routes without some of the existing route deviations. This means that increased walking distances must be accepted in some areas in Lillehammer town. For several of the lines serving Lillehammer 2-4 departures per hour is suggested in normal traffic periods. Service levels for low traffic periods are also proposed, which still will provide good interchange opportunities within the network.

The simplified, fixed-minute services are easy to communicate to the public. This will make it easier for interested actors to adjust opening hours and meeting arrangements to the timetable of the public transport service.

Further, the following principles for the design of the line network are recommended as far as they may be adapted to the local conditions:

- Pendulum lines adjusted to travel demand patterns
- Symmetrical pendulums are ideal, short lines should have high frequency
- Undisturbed routes and full punctuality must be secured through traffic management
- No more bus stops than necessary
- Good and simple coverage of the town centre by common stopping places at either end of the main pedestrian shopping street in addition to the meeting point at the railway station
- A special visitors and shoppers line serving many important travel destinations in central parts of the town
- All places should be served by a defined bus stop, which should be made clearly identifiable and more informative of the local area and the total public transport system.
- "Universal design" of bus stops which offer safety, information and user comfort should demonstrate a strong commitment to public transport as a part of the region's common infrastructure
- The walking trip should be seen as a part of the public transport journey, so local accessibility, road signing and local information should be significantly improved in connection with the public transport system
- The system design should be accompanied with easy understandable information about the system and its details, as well as person- and group-oriented information and marketing

The draft network is based on the hypothesis that a simplified, efficient demand-responsive service adjusted to actual demand is a better and more cost-efficient solution than fixed lines and timetables with departures every second hour or more seldom. This hypothesis should be tested in practice. Also a suggested coordination between the use of express bus services and local services in rural parts of the region should be studied more closely when the demand-responsive services are designed.

## **Efficient and customer-friendly on-demand services**

The travel needs which are not covered by the fixed-schedule service will be dealt with by further development of the existing dispatching centre in cooperation between the Oppland and Hedmark County Councils and the Inland Hospital Administration.

This part of the public transport system might be labelled "Taxibus" or "Telebus", so as to reflect the use of telematics for the communication with customers and within the system. The system provides an infrastructure of vehicles, drivers, customer services, ordering and communication systems that is able to combine many different travel demands and several types of transport resources. A travel dispatch centre will be the core of the system. Customers will include both individual users and public servants responsible for the ordering of transport services in the school, health and social service sectors. Travel orders may also be taken from private businesses in the tourism industry or other sectors.

The customers might book single journeys from one place to another within defined service areas: They should also be able to order fixed long-term transport tasks for longer periods, such as transport of particular school pupils for a full school term, or handicapped persons to and from work.

The type of service actually provided, type of vehicle, operator, service level and who must pay, and how much, will be decided by a set of rules decided by the financing

bodies, the citizens' rights as regulated by law, and the local and regional authorities' political priorities. Even the systems' creative abilities to develop and satisfy the regional travel market will influence the type of transport operations and services that are actually used in practice.

The system must have strong connections to the rest of the public transport system, so that customers always can be informed about alternative travel possibilities in the scheduled line network. They may also be directed to these alternatives if the system regulations or agreements with the financing bodies require this in order to secure the most efficient operations of the total system.

## **Further development**

The proposed concept will be detailed by the responsible Oppland County Council, with the first operational changes taking place on January 1, 2008 through a new tender contract for the scheduled services in Lillehammer. Specific topics that should be further studied are:

- Cost-benefit considerations as a basis for giving priority to the different measures that have been suggested within the total policy package
- Information design programme and branding strategy
- Rules and regulations governing the public transport duties, including a closer analysis of which parts of these transports that can be catered for by the scheduled line services
- Ticketing and prices for different services
- Internet website for full system information and travel booking
- Working out the details of organisation, partnership agreements, contracts, and so on
- A plan for implementation with necessary adjustments to fit the ambitions and solutions to the available resources

Since the overall concept is new in Norway, it is suggested that the development of the Lillehammer regional travel network is given the status of a national development project. This might allow this pilot project to test organisational and practical solutions that are of great interest to other regions in Norway, possibly also abroad. This will require a systematic follow-up study to register and analyze the effects and experiences of the project.