How Bybanen has affected travel patterns in Bergen

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Hans Petter Duun, Norconsult
Contents

• History of Bybanen
• Main strategy behind the decision to build Bybanen
• Has Bybanen changed travel patterns?
Traffic and population growth before Bybanen

![Graph showing traffic and population growth]

- **Car traffic**
- **Population**
- **Public transportation**

- **Years:** 1990, 1995, 2000, 2005, 2010
- **Values:**
  - Car traffic: 80, 90, 100, 110, 120
  - Population: 100, 110, 120, 130, 140
  - Public transportation: 100, 90, 80

- 2008:
  - Public transportation: 13%
  - Car: 65%
  - Walkin cycling: 13%

- 2000:
  - Public transportation: 13%
  - Car: 65%
  - Walkin cycling: 13%

- 2008:
  - Public transportation: 13%
  - Car: 65%
  - Walkin cycling: 13%
Strong population growth urban region

Registered Prognose

- 1980: 300,000
- 2040: 512,000 (28% increase)

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Consumption per inhabitant

Registered Prognose

83 % growth from 2014 to 2040
Growth in automobile ownership

Change in ownership, private autos per 1000 inhabitants in some Norwegian cities.
Periods of bad air quality during winter months
Variation in travel times with bus Nesttun – Sentrum
Before Bybanen

Max tid: 29 min
Min tid: 16 min
Average: 22 min

Departure time fra Nesttun
Busser i Bergen sentrum før Bybanen
Basis for public transport improvement from 2000

- Strong population growth in urban areas
- Increase automobile ownership
- Traffic congestion on the highway network
- Expansion of capacity on the main highway network not enough for increase in traffic levels
- Need for mitigation measures to improve air quality
- Public transport not attractive enough

**STRONG NEED FOR BETTER PUBLIC TRANSPORT**
But how?
Geography and urban structure in the Bergen region
Center structure in the Bergen region

10 km
Public transport in the Bergen region

Public transport city

Suburban area

Exurban area
Population and ridership within the different zones in the Bergen region

- **Public transport city**
  - 70% of population
  - 80% of public transport users

- **Suburban areas**
  - 20% of population

- **Exurban areas**
  - 10% of population
Differentiation of high-quality public transport
Major route structure for public transport in Bergen
Appropriate transport solutions?

Distance:
- Long
- Medium
- Short

Capacity (Passengers per hour):
- Low
- Medium
- Large

Transport solutions:
- Private cars
- Regional train
- LRT / Busway
- Metro
- Cycle
- Bus

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Strategic choice and dilemma

- Develop a bus-based system
  Known technology, experience and control of operating costs

or

- LRT as a backbone for the public transport system in cooperation and coordination with bus?
  Unknown concept requiring major investment.
From route structure to a LRT network
Strong opposition from road authorities
Judges Bybanen to be a bad solution

May 2004

Dømmer bybanen nord og ned

Kollektivtrafikken vil kunne gå med 200 millioner kroner i underskudd i året dersom bybanen bygges, skriver veidirektør Olav Søfteland.

Høyres Hans Edvard Seim sier bybanen ikke får Høyres støtte om tallene fra veisjefen er riktige.

Byråd Lisbeth Iversen avviser veidirektørens tall. Hun hevder hans konklusjoner bygger på grove feiltolkninger.

Vegdirektøren slakter bybaneplanleggingen. Trafikkttallene holder ikke mål. Et enormt driftsunderskudd vil måtte belaste de svært anstrengte budsjettene i Bergen kommune og Hordaland kommune i mange år fremover.
Goals for Bybanen

- **Bybanen shall strengthen the urban environment by:**
  - contributing to environmentally-friendly city development
  - being a visible and integrated identifying element in the urban scene
  - contribute to the effective use of societal resources

- **Bybanen shall provide a safe and effective trip with a focus on:**
  - traffic safety
  - dependability with regard to travel and trip times
  - punctual and frequent service
  - priority over other traffic leading to unrestricted operation
  - high operational speed
  - easy, good and efficient transfer possibilities with other modes
  - good accessibility for all traffic groups
  - economic to operate and maintain
International experience

Bordeaux

Strasbourg
Opening of first section: 22nd June 2010
Trip times from Nesttun before and after Bybanen

Before Bybanen:
- Max tid: 29 min
- Min tid: 16 min
- Average: 22 min

After: 22-24 min
Housing prices /m2 in Bergen, strong increase along Bybanen
Bybanen attracts significant investments, TOD
Has Bybanen change travel patterns?
Passenger numbers for Bybanen since opening in 2010 have exceeded model predictions.

- **First section**: 10 km to Nesttun
- **Second byggetrinn**: 3 km to Lagunen
- **Third section**: Traffic estimates to Bergen Airport

Traffic estimates:
- Traffic estimates first section
- Traffic estimates second section
- Traffic estimates third section

- Opening: 22.6.2010
Change in opinion about public transport offer after opening of Bybanen

Percent who believes that the public transport offer is better, unchanged or worse after the introduction of Bybanen, by location.

Source: Institute of Transport Economics, TØI
Increase in public transport based on modal category

Source: Institute of Transport Economics, TØI
Public transport ridership (trips per year) for Norwegian cities since 2005

Kilde: Gustav Nilsen, www.bull.net
Changes in travel patterns with Bybanen

Source: Institute of Transport Economics, TØI
BILDE: KRISTIN HAUVE KLEMSDAL

Bergenserne endrer reisevaner
Takk for oppmerksomheten!

Thank you for your attention!