



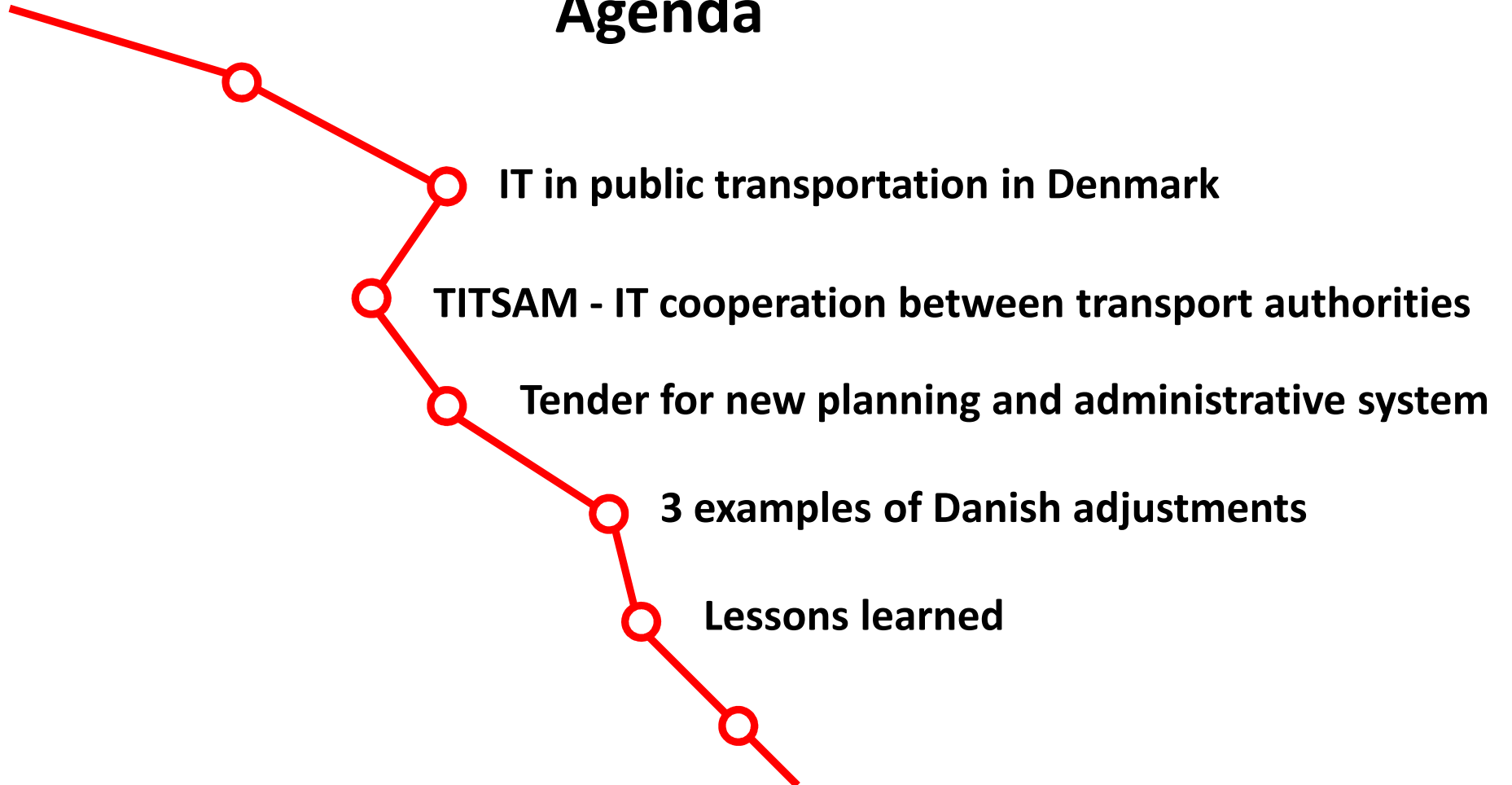
Implementation of a new planning and administrative system

Vehicles and systems

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Agenda



IT in public transportation in Denmark

IT in public transport in Denmark is generally characterized by:

- Nationwide travel planner



- Nationwide travel card



TITSAM

- IT cooperation between the minor transport authorities in Denmark
 - BAT – Bornholm
 - FynBus
 - Sydtrafik
 - Midttrafik
 - Nordjyllands Trafikselskab



TITSAM

- Was formally established in 2001, but cooperation on IT solutions has existed since the early 90's
- The cooperation covers a wide range of IT systems related to public transport
 - Planning and administration
 - GIS
 - Ticketing, e.g. web tickets and season pass for students
 - General exchange of experiences



TITSAM

Since mid 90's the TITSAM companies have had a common tool for planning and administrate the public transport

- Route planning
- Administration of payments to operators
- Administration of financing the public transport
- Publishing
- Interfaces to travel plan, travel card etc.
-

-> "Microsoft Office" for public transport



Basis for tender

The former system has been used for almost 20 years, but during this period much has changed

- New types of public services
- Real-time systems
- General improved passenger information displayed on new types of medias
- Nation wide travel plan and travel card
- Increasing needs for better information for decision makers (municipalities, regions and politicians)
 - implement traffic and passenger analyzes
 - integrate and follow operation and quality closer



Basis for tender

Completed a tender with the goal of a **standard system**, including

- Open database / database structure
- Direct GIS integration
- Simple connection with other systems, including financial systems
- Opportunity to work in parallel in a plan / contract world and in an operating world
- Maintenance of all data in one system, e.g. timetables, blocks and GIS
- More focus on planning and less focus on data maintenance



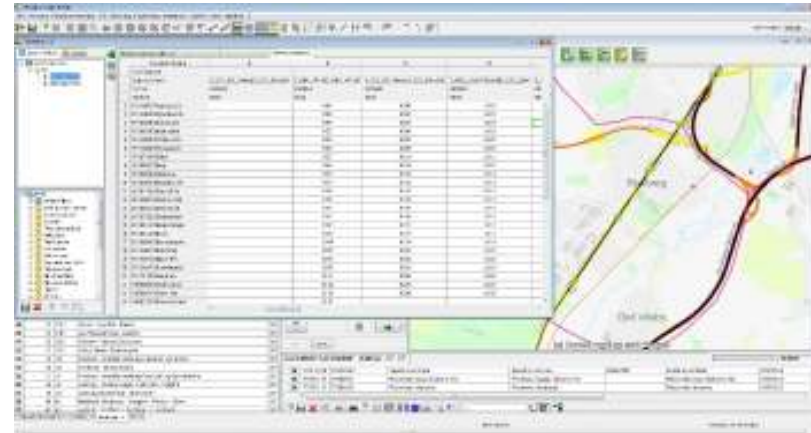
New supplier - **init**

- Generally formulated requirement specification (130 requirements)
- 5 companies were prequalified – 3 submitted offers
- All TITSAM companies participated with key persons in specification, negotiation and decision

- Init was awarded the contract in 2014
 - 2 authorities working
 - 2 authorities implementing



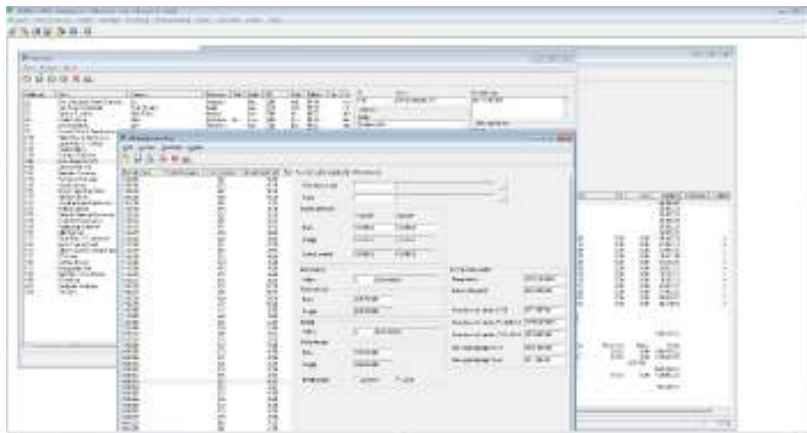
initPlan



Planning / GIS
Data maintenance
Publications
Interfaces

.....

initPerdis



Daily operations
Operator settlement / cost center distribution
Financial statistics / reports

.....

PTV Visum



Strategic planning
Data analyzes

.....



Standard system vs. handling special Danish needs

Example 1

Financial units

- Most of the public transport in Denmark is tendered out and financed by the regions and municipalities.
- The transport authorities have to manage this information in details.

The image shows a screenshot of a financial software interface. The main window displays a table with multiple columns and rows of data. The table is titled 'Company Items' and has columns numbered 1 through 6. The data includes various financial metrics such as 'FCI', 'Organizational units', and 'Public transport units'. A red vertical box highlights a column, likely column 6, which contains numerical values and some text. The interface also shows a left-hand navigation pane with a tree structure of folders and files.

Standard system vs. handling special Danish needs

Example 1

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The image shows a tilted screenshot of a complex financial spreadsheet or database interface. The table contains multiple columns with text and numerical data, some of which are highlighted in red. The interface appears to be a standard system being adapted for specific Danish requirements.

Standard system vs. handling special Danish needs

Example 2

Haling sections

- Outside urban areas you can use the bus even if there are no official/physical stops.
- Requires data in timetables and GIS

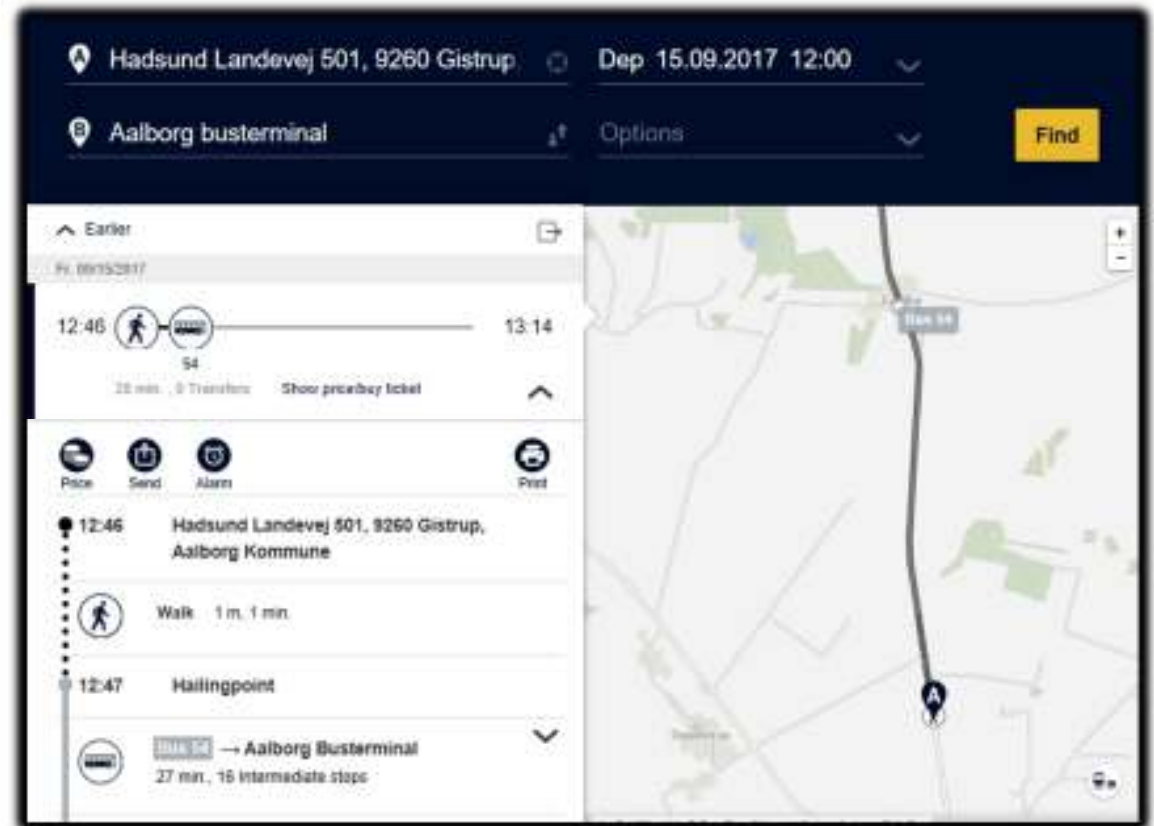


Standard system vs. handling special Danish needs

Example 2

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Standard system vs. handling special Danish needs

Example 3

Nation wide zone system

Complex fare structure

- Fare domains
- Associated fare domains
- Fare zones

The screenshot displays a software interface with several data tables. The main table on the left lists fare domains with columns for 'Navn' and 'Fare-domæne'. A smaller table in the center shows 'Navn', 'Måned', and 'Fare-domæne'. On the right, a table with columns 'Code', 'Autarky', 'Basis', 'Start dato', and 'Til dato' is visible, with the row for '11 1111 11' highlighted in yellow.

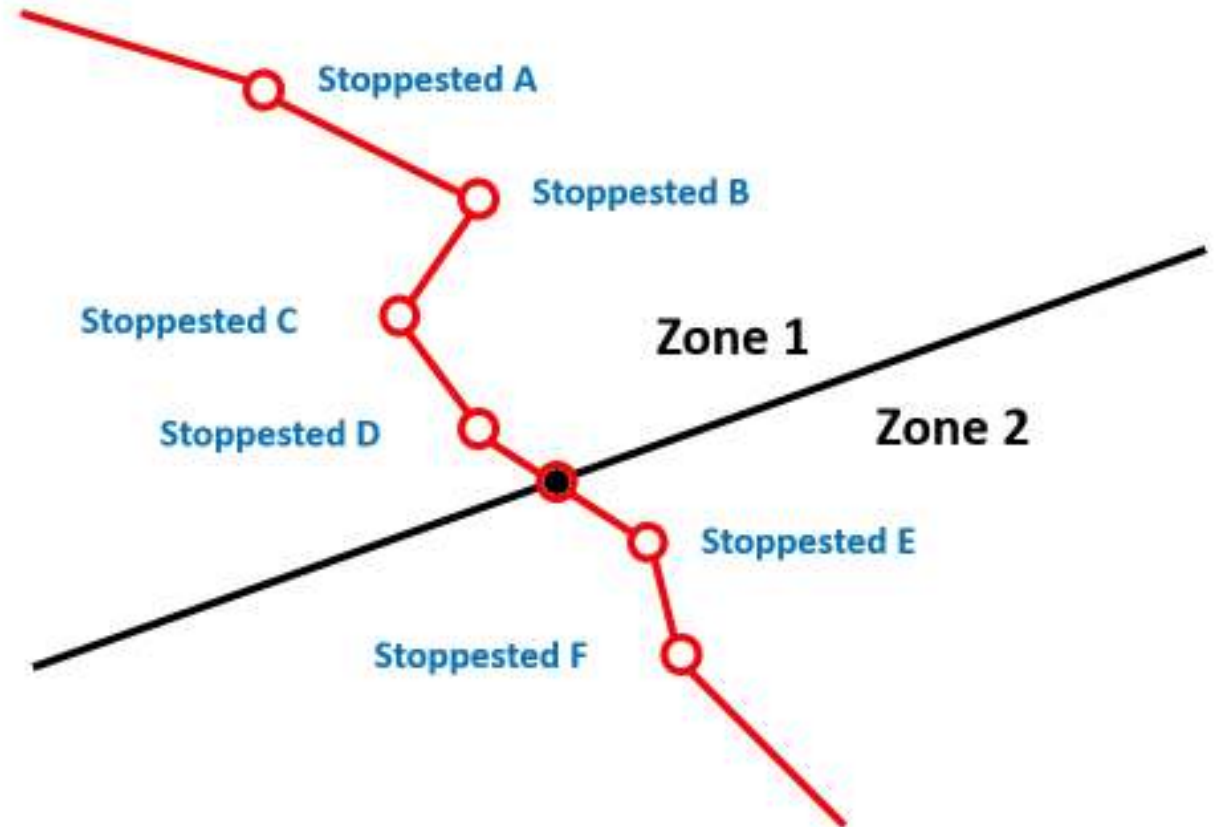
Standard system vs. handling special Danish needs

Example 3

Nation wide zone system

Complex fare structure

- Fare domains
- Associated fare domains
- Fare zones
- Zone change points



Lessons learned

- Even though we asked for a standard system, there are differences between Denmark and Germany in handling public transport.
- Much has changed in 20 years ... and something may have been forgotten or you did not realize it existed.
- Things take time.
- You have to climb the mountain to see the view.



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