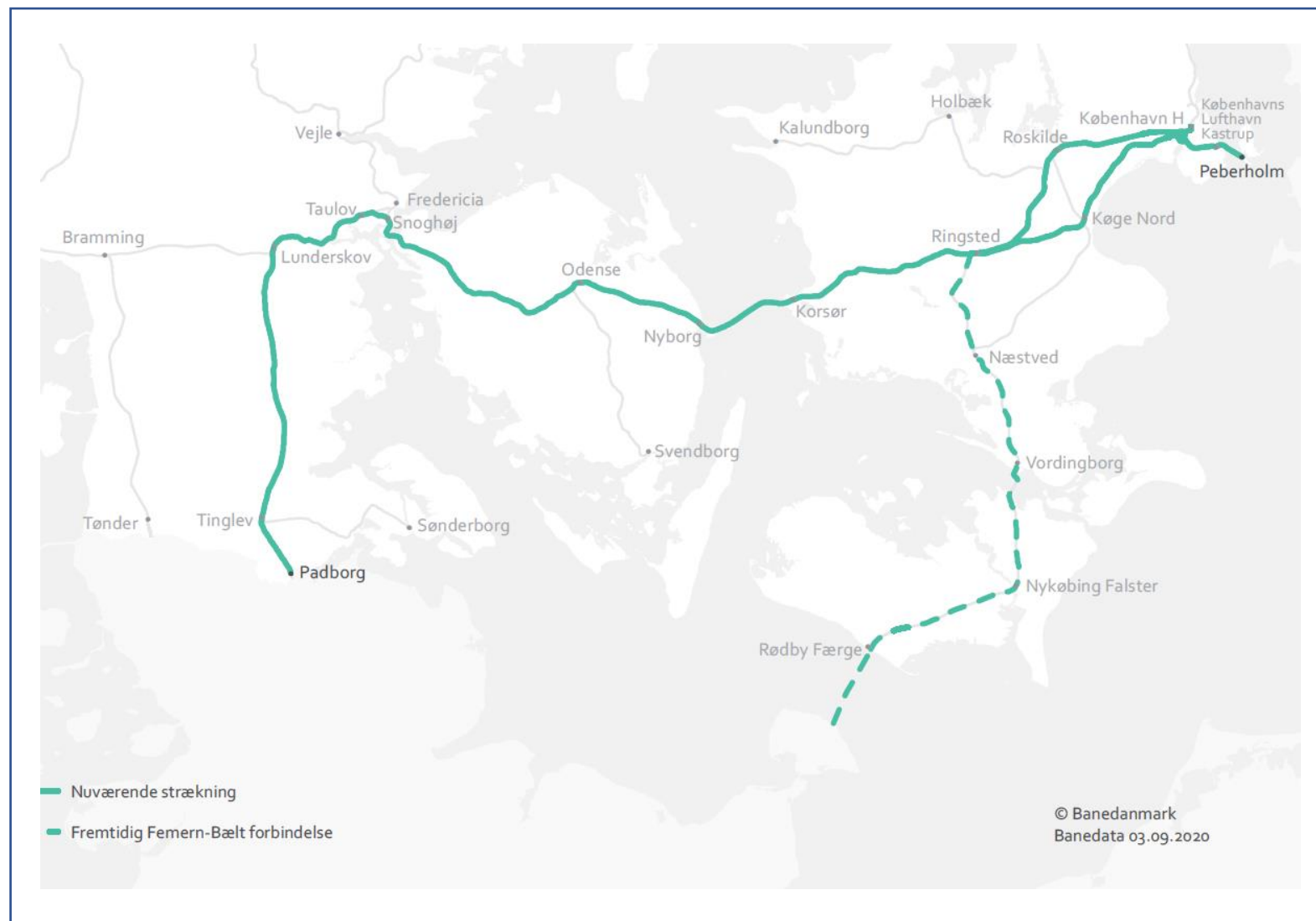


Initial analysis of the possibility of operating night trains through Denmark



The task of Banedanmark

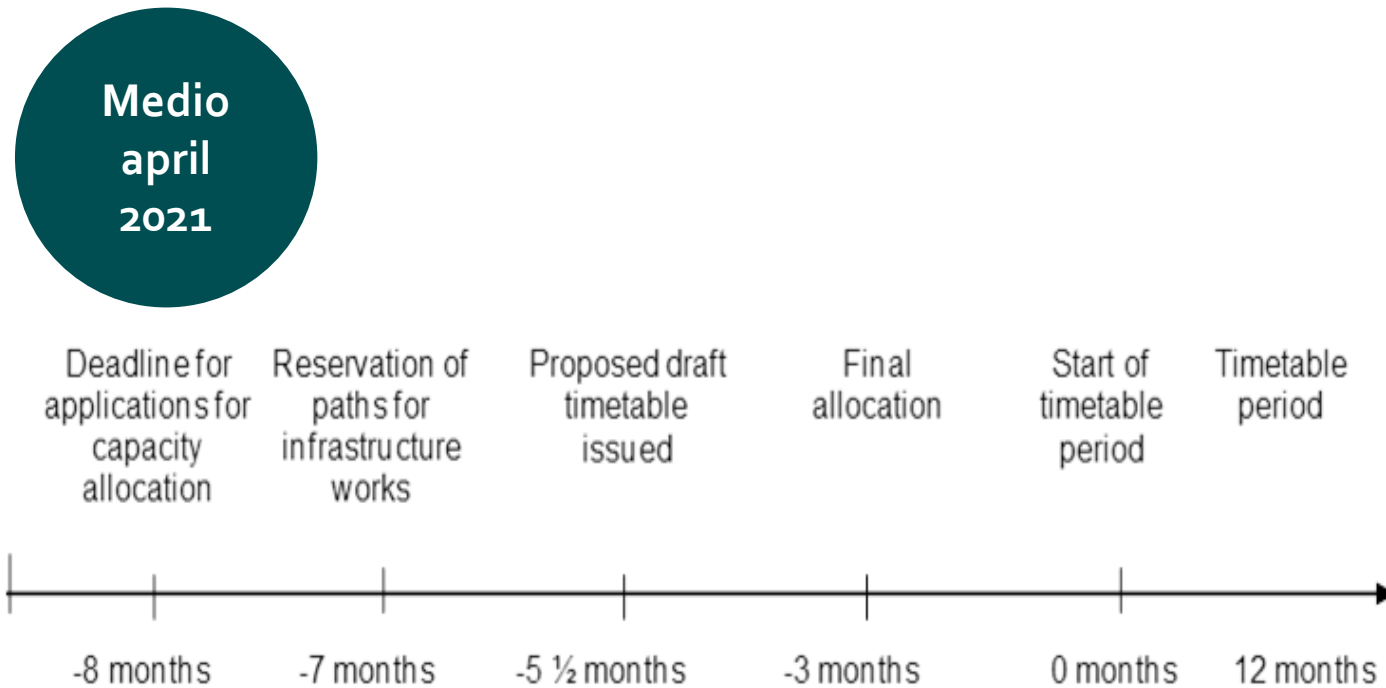
- As infrastructure manager Banedanmark distributes and allocates capacity to the railway undertakings and coordinates with neighboring infrastructure managers - both nationally and internationally
- Banedanmark allocates capacity on both the Storebælt Link and Øresund Link on behalf of *Sund og Bælt* and *Øresundsbroen*
- The principles of path allocation are based on the EU Freight Regulation and the Danish Railways Act with associated executive orders

The path to operating night train traffic in the timetable of 2022

The allocation process

- At present passenger trains are applied via the national proces
 - Banedanmark is obliged to coordinate international trains at border crossings
- Applications regarding international freight trains allocated through the ScanMed corridor must be applied via RNE's IT-tool and the applicable deadline for timetable 2022 is in the middle of April 2021
 - But a path catalogue for ScanMed will be published in the winter of 2020

Applications deadlines for timetable 2022



Source: Generic timeline from The Network Statement (*Netredegørelsen*) 2021

Experiences with international freight trains

A close collaboration with the Rail Freight corridor Scandinavian-Mediterranean RFC (ScanMed) focusing on:

- Harmonisation in infrastructure and traffical regulations
- Coordination of timetables
- Centralized application procedures via a one-stop-shop
 - ScanMed corresponds to 30% of the international trains in Denmark

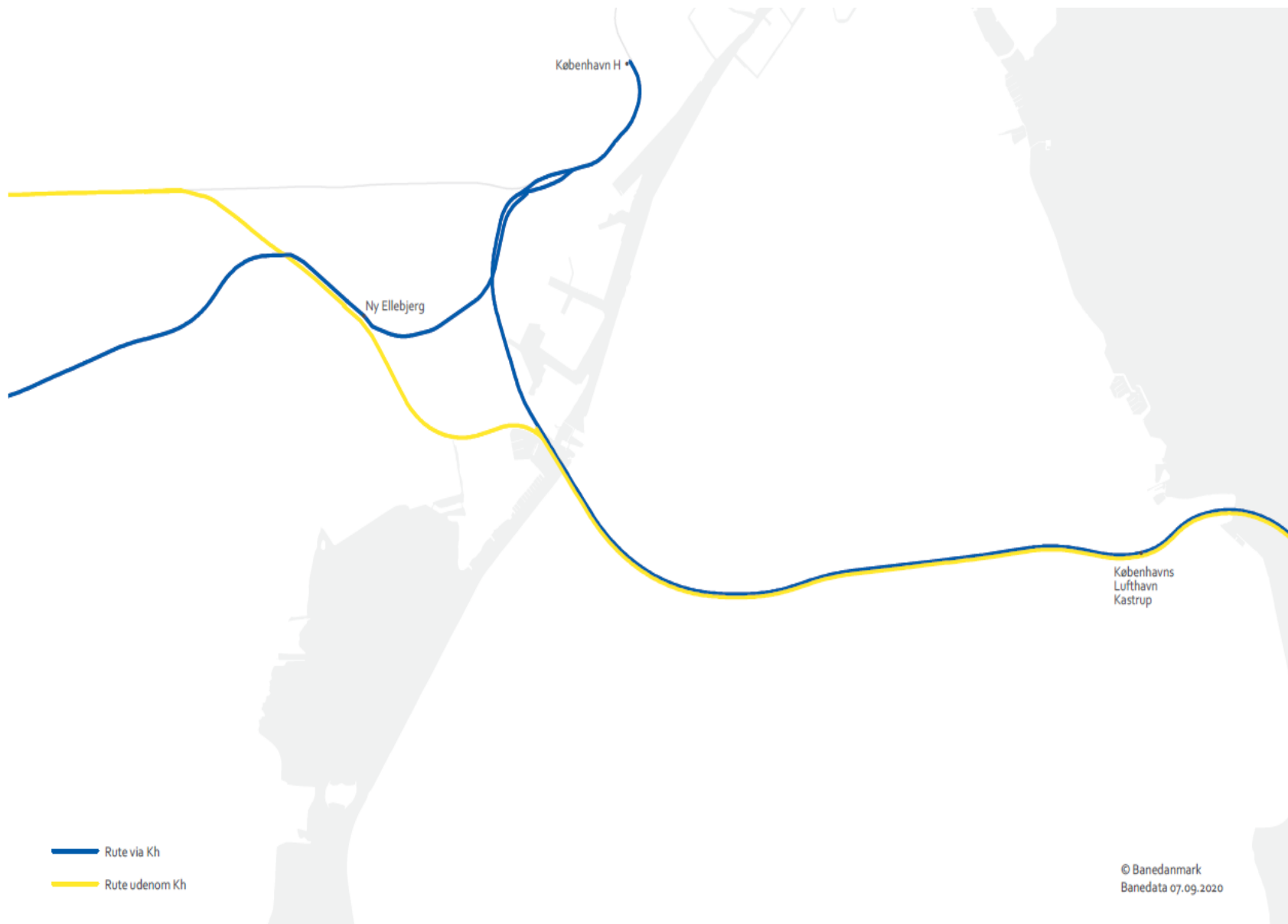


Characteristics of the presented night train paths Malmö ↔ Padborg

Model train:

- Vectron-locomotive + 300 tons which matches 6 coaches.
- Train length is 155 m (incl. loco)
- Max speed 160km/h





Stopping patterns for night trains Malmö ↔ Padborg

Night trains will call at:

- Københavns Lufthavn Kastrup / Copenhagen Airport
- København H / Copenhagen Central Station
(direction change, **new line** via Køge) or Høje Taastrup (**old line**)
- Odense
- Kolding
- Padborg (passport and customs control + change of locomotive and driver and/or train crew)

Suggestions of night train paths Malmö → Padborg

Night train via København H			Connections		
Station	Arrival	Departure	Station	Arrival/ departure	Shift time
Malmö C		19:42			
Københavns Lufthavn Kastrup	19:59	20:01			
København H	20:12	20:32	- To Høje Taastrup - From Høje Taastrup	ETA: 20:37 ETD: 20:03	11min 15min
Odense	21:59	22:01	- To Aarhus	ETA: 00:13	35min
Kolding	22:44	22:46			
Padborg	23:45				

Suggestions of night train paths Malmö → Padborg

Night train via Ny Ellebjerg			Connections		
Station	Arrival	Departure	Station	Arrival/ departure	Shift time
Malmö C		19:42			
Københavns Lufthavn Kastrup	19:59	20:01	- To København H	ETA: 20:17	5min
Høje Taastrup	20:24	20:26	- From København H	ETD: 20:03	8min
Odense	21:59	22:01	- To Aarhus	ETA: 00:13	35min
Kolding	22:44	22:46			
Padborg	23:45				

Suggestion of night train paths Padborg → Malmö

Night train via København H			Connections		
Station	Arrival	Departure	Station	Arrival/ departure	Shift time
Padborg		00:44			
Kolding	01:34	01:36			
Odense	02:17	02:19	- To Aarhus - From Aarhus - To Høje Taastrup	ETA 04:13 ETD: 00:45 ETA: 03:43	14min 19min 6min
København H	04:01	04:21	- From Høje Taastrup	ETD: 03:45	19min
Københavns Lufthavn Kastrup	04:33	04:35			
Malmö	04:55				

Suggestion of night train paths Padborg → Malmö

Night train via Ny Ellebjerg			Connections		
Station	Arrival	Departure	Station	Arrival/ departure	Shift time
Padborg		00:44			
Kolding	01:34	01:36			
Odense	02:17	02:19	- To Aarhus - From Aarhus	ETA: 04:13 ETD: 00:45	14min 19min
Høje Taastrup	03:46	03:48	- To København H	ETA: 04:19	10min
Københavns Lufthavn Kastrup	04:07	04:09	- From København H	ETD: 03:36	19min
Malmö	04:30				

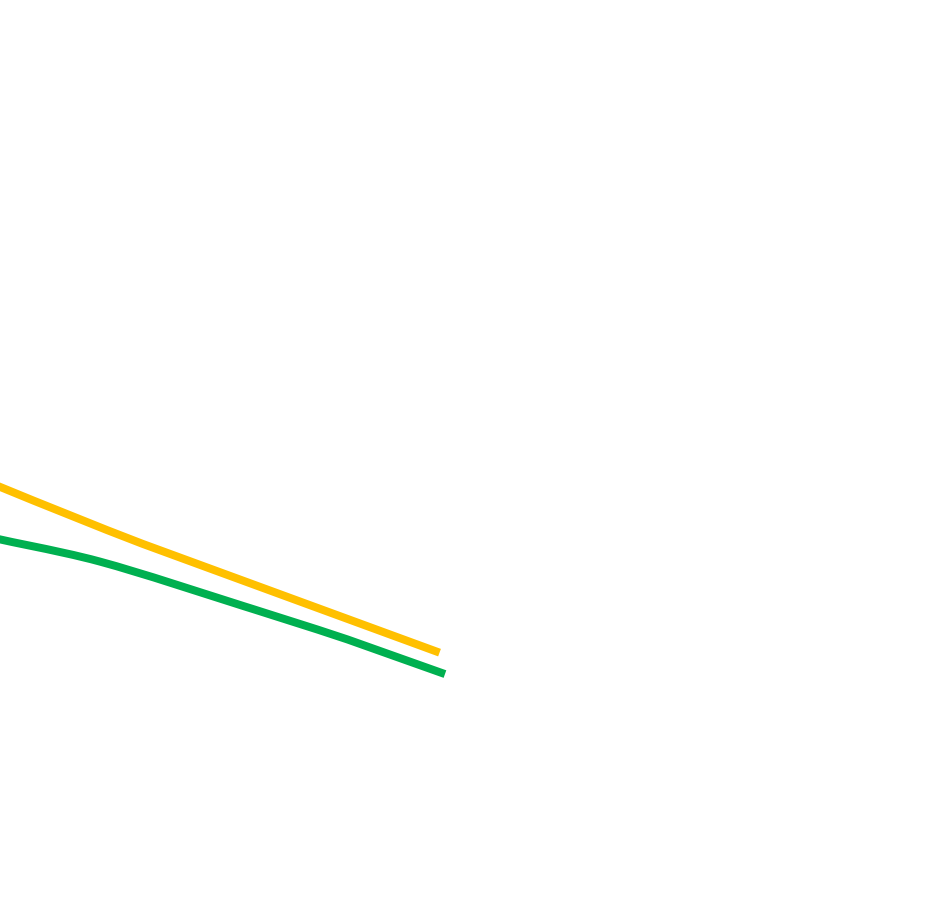
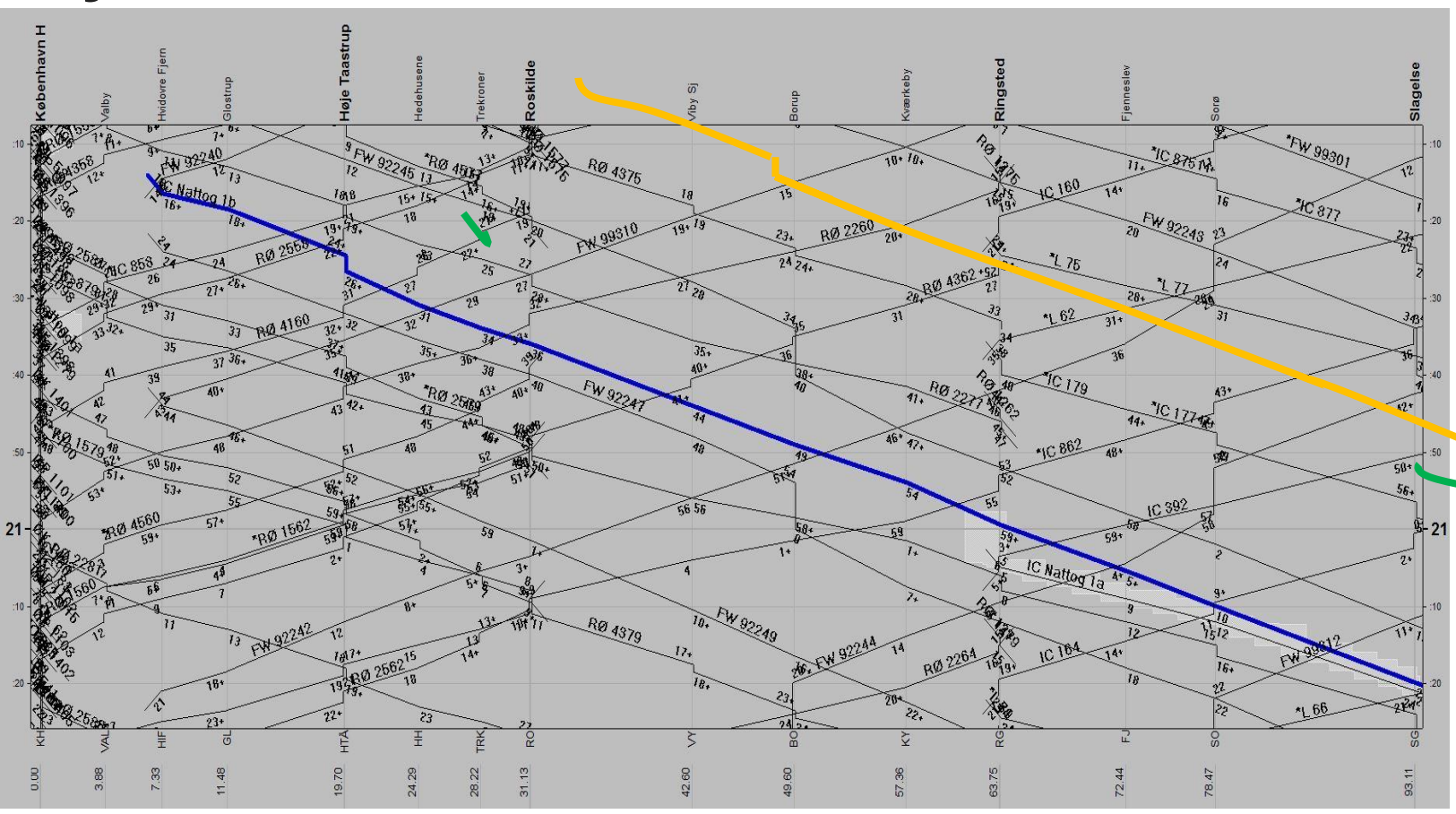
Suggestion of late scheduled night train path Padborg → Malmö

Night train via Ny Ellebjerg			Connections		
Station	Arrival	Departure	Station	Arrival/ departure	Shift time
Padborg		05:16			
Kolding	06:15	06:17	- To Aarhus	ETA: 08:01	17min
Odense	07:09	07:11	- From Aarhus	ETD: 05:15	19min
Høje Taastrup	08:27	08:29	- To København H	ETA: 08:47	5min
Københavns Lufthavn Kastrup	08:52	08:54	- From København H	ETD: 08:36	5min
Malmö	09:15				

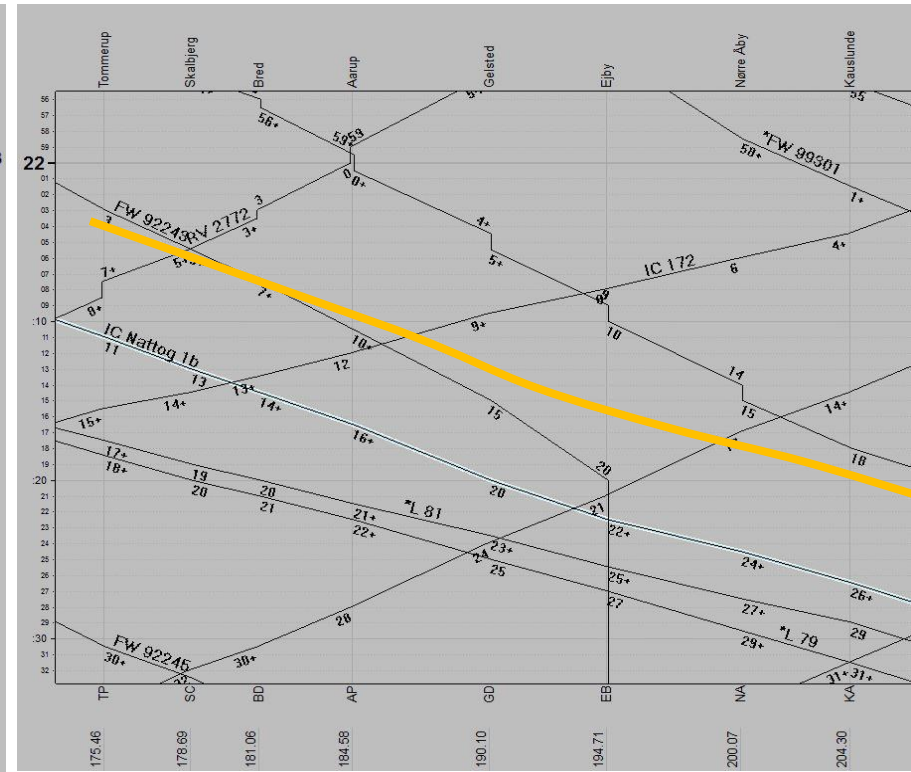
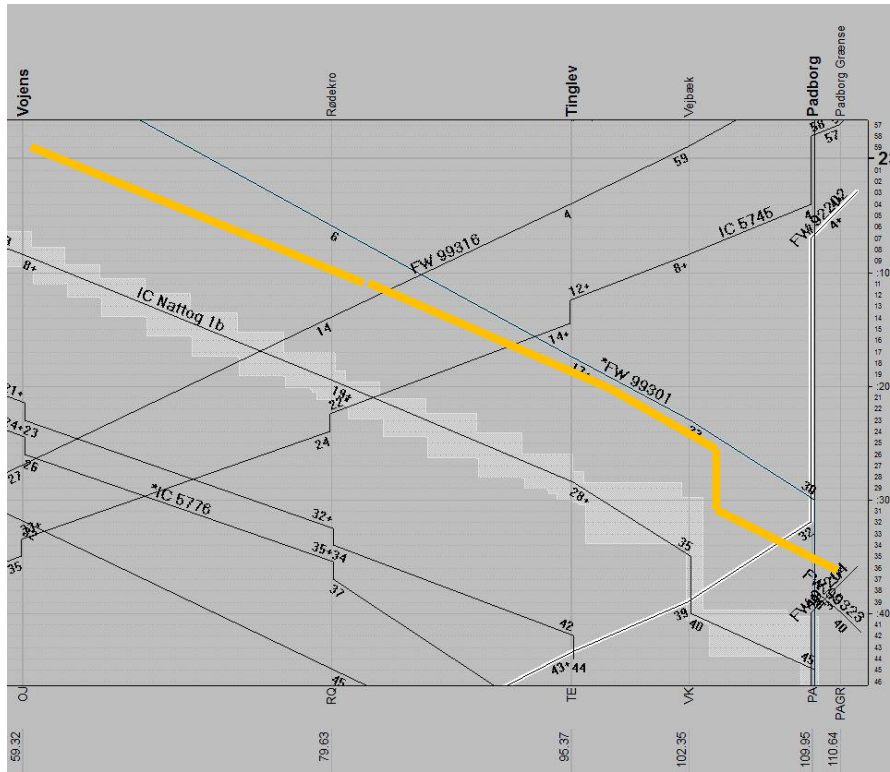
Characteristics of the presented night train paths Malmö ↔ Padborg

- Saves approximately 20 minutes in travelling time by not calling at København H (assumption of a necessary locomotive circulation)
- Big running time supplements: Up to 26% ensures a high level of punctuality
- Maintenance on the infrastructure can imply longer travel time: Single-tracks through the Storebælt Tunnel and Øresundstunnellen and other line sections on the infrastructure

Adjustment due to other train traffic



Adjustment due to other traffic



The recommendations of Banedanmark

- Night train from Malmö C via København H
- Late night train from Padborg via Ny Ellebjerg

Next steps

- Bannedanmark is ready to process any applications of capacity for international night trains
- Bannedanmark is at disposal in the process of finding the best paths that meet the passengers' needs