



BusMezzo Webinar

Oded Cats, Wilco Burghout and David Leffler

Why now?

- Series of projects
 - **ADAPT-IT**: Analysis and Development of Attractive Public Transport through Information Technology
 - **TRANS-FORM**: Smart Transfers through Unravelling Urban Form and Travel Flow Dynamics
 - **SMART**: Simulation and Modelling of Autonomous Road Transport
 - **iQMobility**: Coordination of a Fleet of Autonomous Buses for Efficient Urban Transportation
- Additional developments in PhD projects, master theses, commissioned projects
- Diverse topics, countries, training, experience, applications, extent of involvement

Who
are
we?



ERIK



DAVID



TOMER



HEND



HECTOR



WILCO



ODED



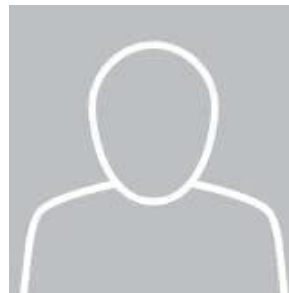
FLURIN



MENNO



RAFAL



AREK

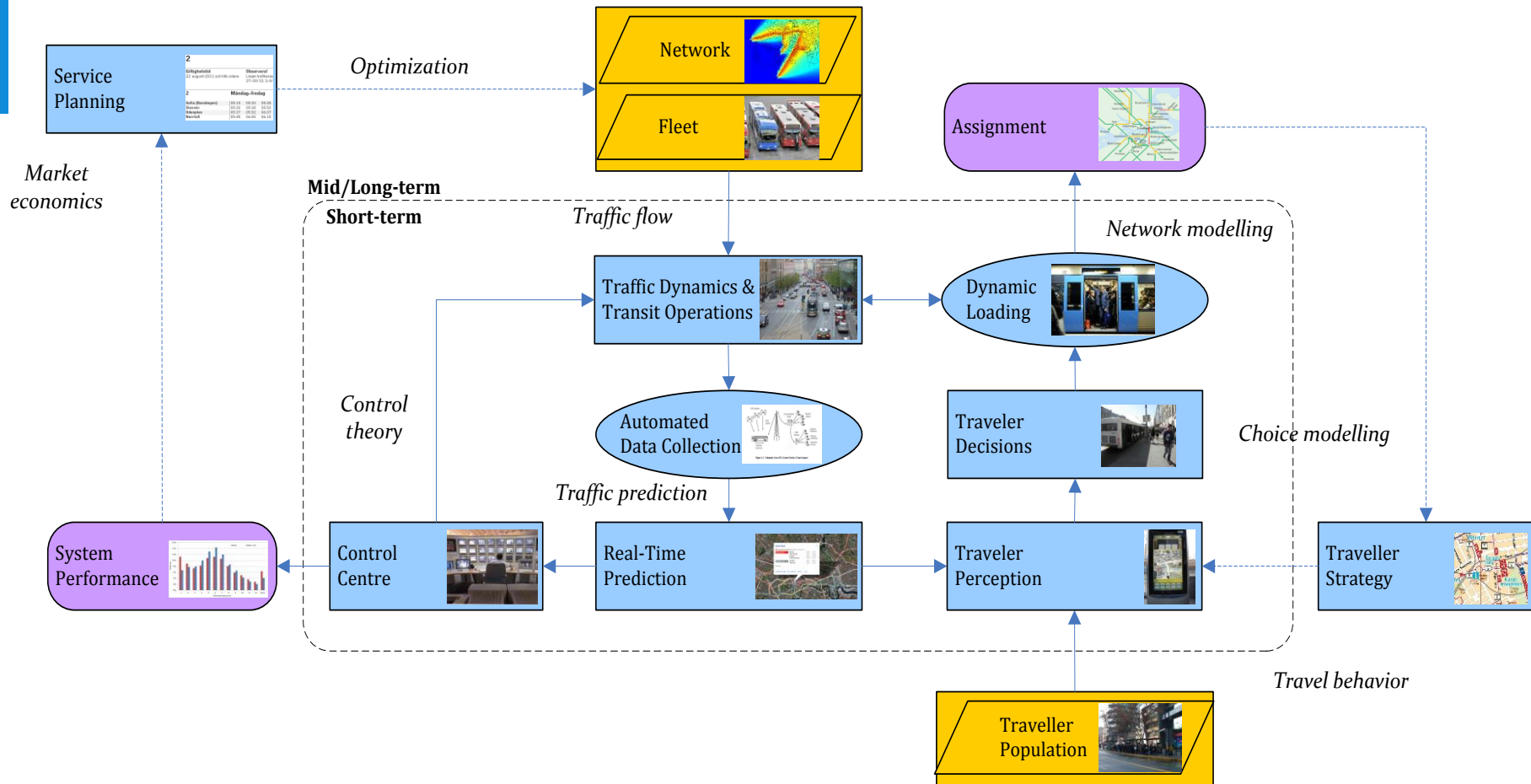


JENS

Agenda

- Overview of on-going BM developments
- Updates on development environment and Mezzo editor
- Software development workflow
 - Working with branches
 - Reporting issues, bugs
 - Project board
 - Working with GitHub
- Q&A, open discussion

Modelling framework



Key development directions

- Modular controller and predictor units
- Control: beyond the single line
- Relaxing rigid fixed services
- Crowding: information, propagation, redistribution
- Smartcard input/output data formatting
- BusMezzo/Omnitrans compatibility
- (sub-)network gates
- Using BM as part of tactical planning optimization



Partners



Range of model applications

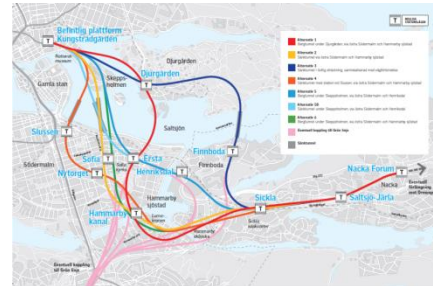
Strategic



Tactical



Operational

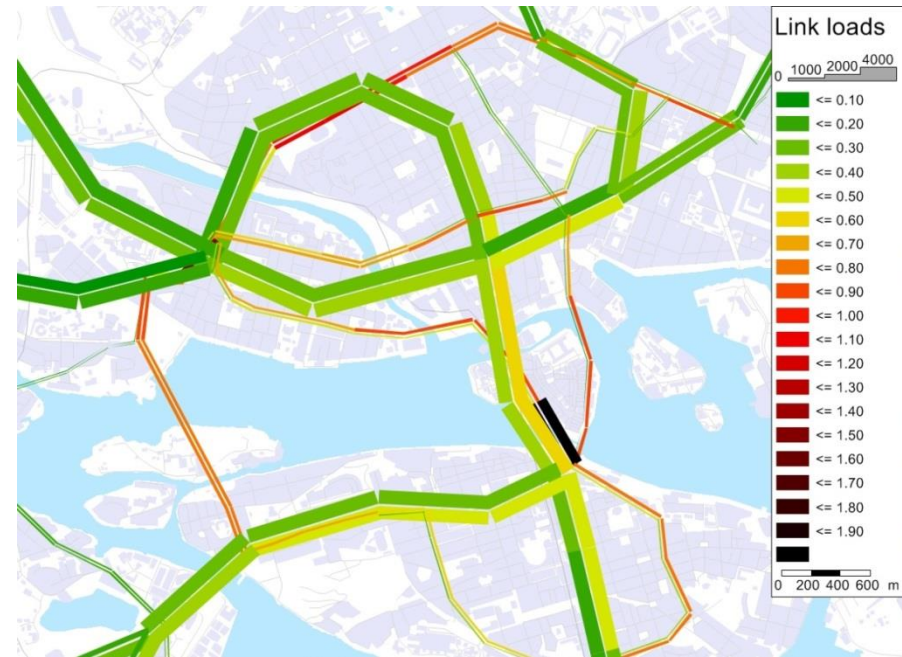
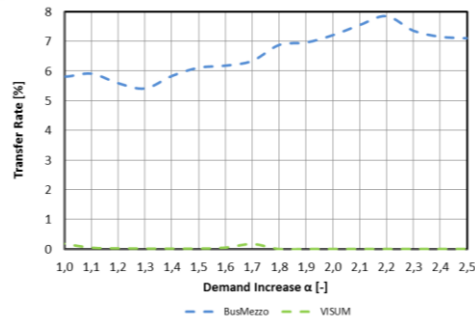
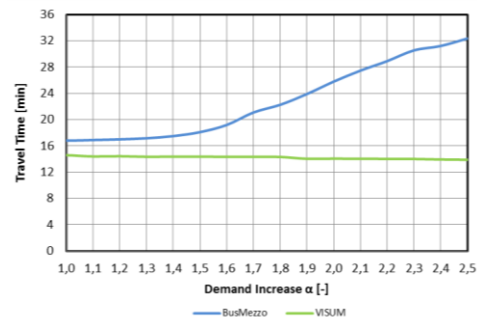
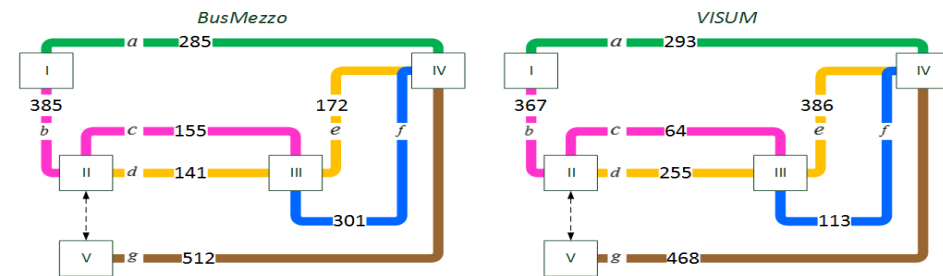


Station Central Park	0538	0544	0607	0618	0625	43	43	43
Western Approach Road	0539	0553	0614	0622	0628	35	45	55
ROYAL PARADE	0547	0600	0623	0629	0632	38	48	58
Station Central Park	0547	0612	0630	0638	0639	42	52	02
Station Central Park	0554	0619	0642	0645	0655	49	59	09
Station Central Park	0557	0622	0652	0704	0707	58	08	18
Station Central Park	0601	0626	0656	0717	0721	09	19	28
Station Central Park	0605	0630	0700	0715	0725	17	27	35
Station Central Park	0605	0630	0700	0715	0725	24	34	47
Station Central Park	0605	0630	0700	0715	0725	27	37	47
Station Central Park	0605	0630	0700	0715	0725	31	41	54
Station Central Park	0605	0630	0700	0715	0725	35	45	57
Station Central Park	0605	0630	0700	0715	0725	39	49	01
Station Central Park	0605	0630	0700	0715	0725	43	53	15

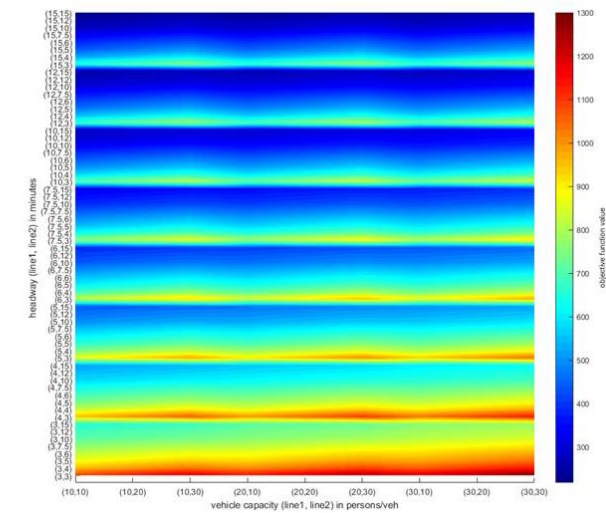
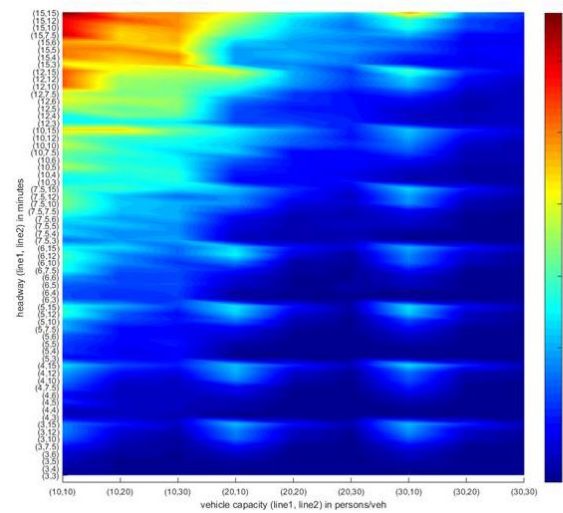


Recent studies

Comparison with static assignment

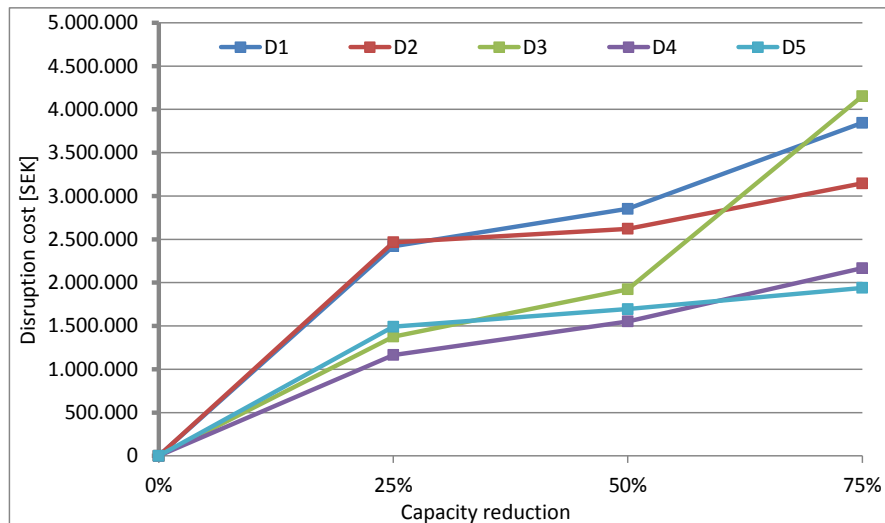


Day to day learning assignment

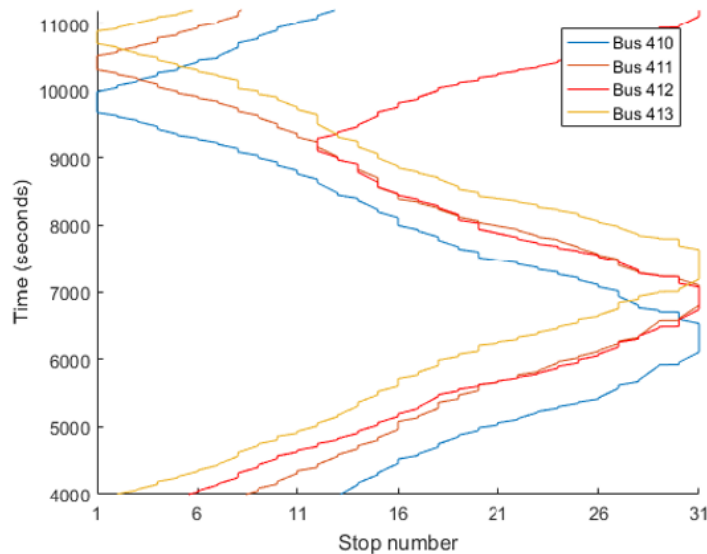


Frequency and capacity determination

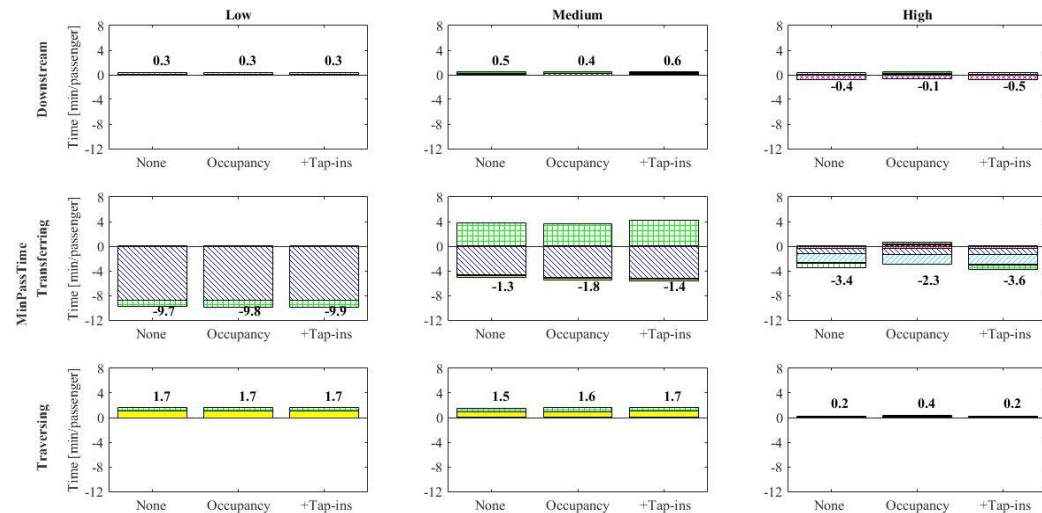
Partial capacity reductions



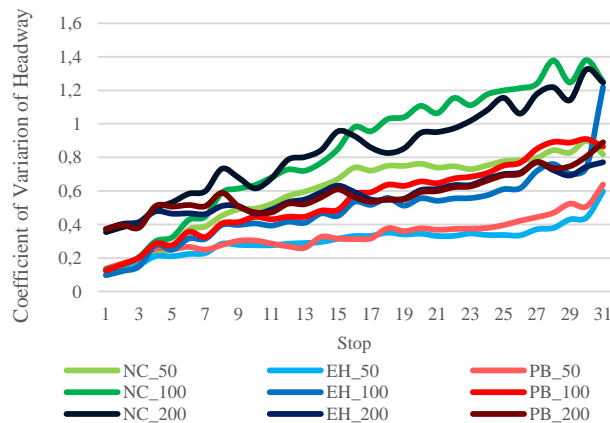
Real-time short-turning



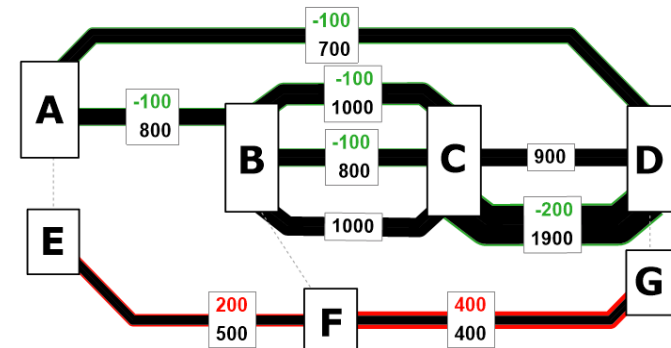
Transfer synchronization



Holding control

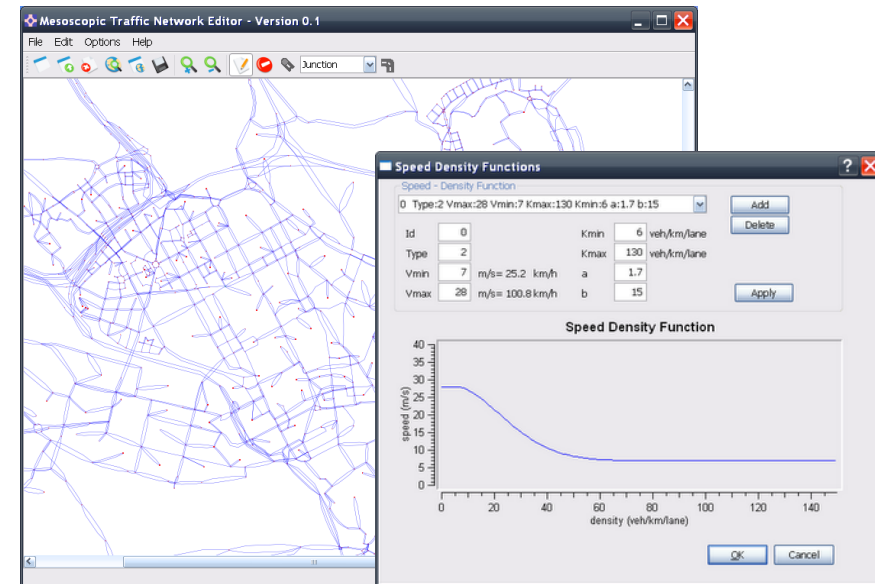
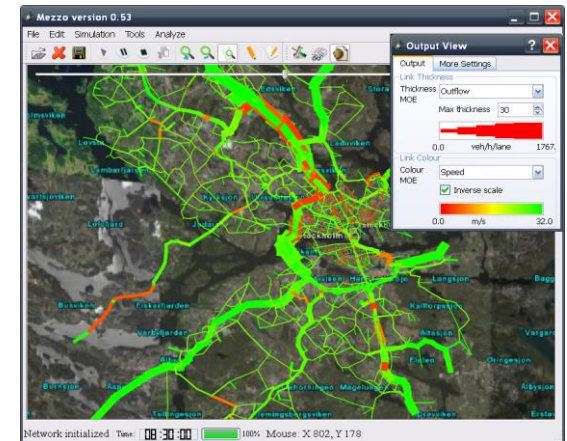


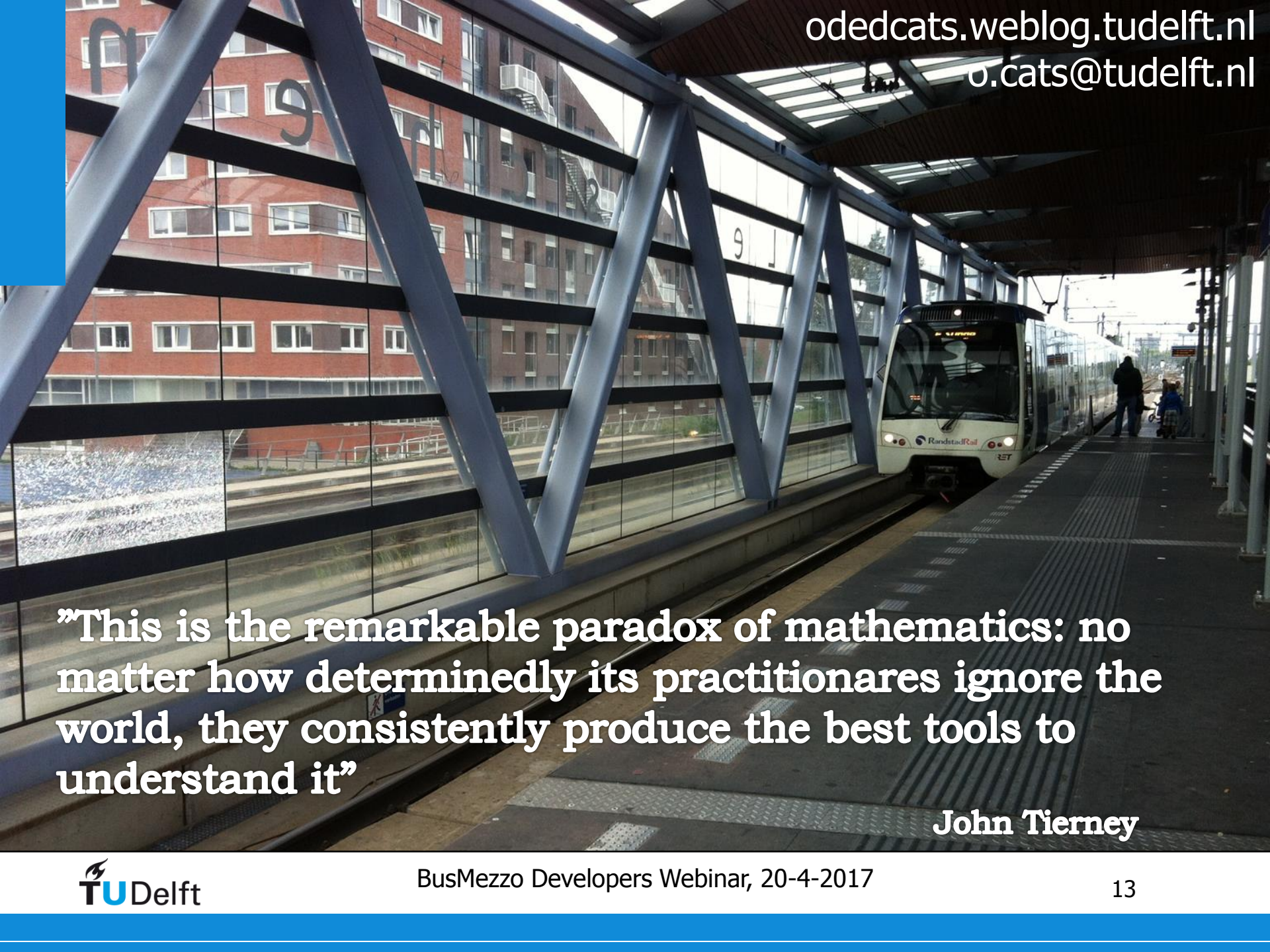
Crowding information



Resources

- BusMezzo [webpage](#)
- Input/output manual
 - Traffic (Mezzo)/transit (BusMezzo)
- Dropbox with .exe and example networks
- Installation instructions on [weblog](#)
- (basic) Editor and GUI
- Program code and project board on GitHub
- Network repository on GitHub





"This is the remarkable paradox of mathematics: no matter how determinedly its practitioners ignore the world, they consistently produce the best tools to understand it"

John Tierney