

# MATSim developments from TU Berlin perspective

# Simulation of COVID-19 spreading (cf. Joanna's talk)

Most of last two years running simulations for the government.

Use **person-trajectories** (weekdays, Saturdays, Sundays) (\*) ..

... introduce **infected** person(s) ...

... figure out how they can **infect others at activity locations** ...

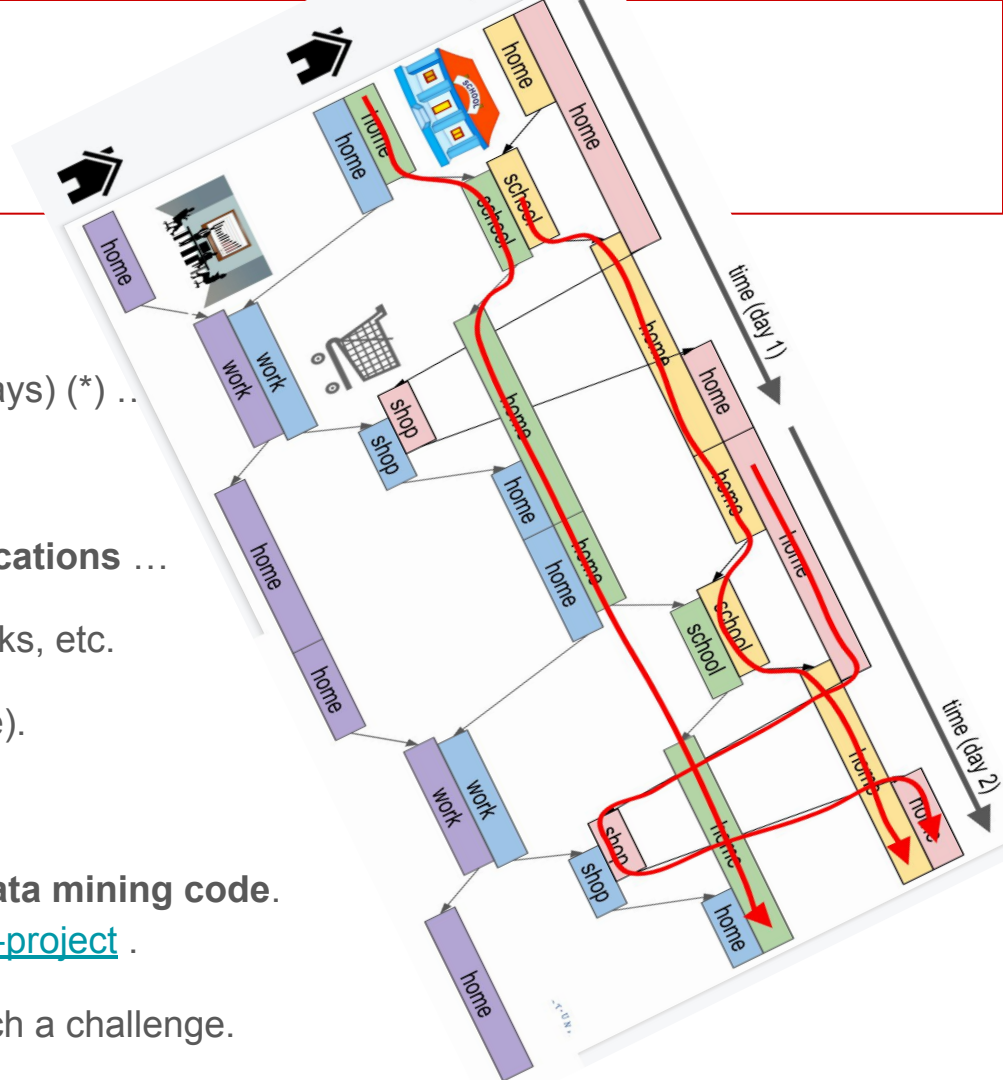
... let run. Calibrate. Reduce activities, introduce masks, etc.

[www.covid-sim.info](http://www.covid-sim.info), thanks to Billy Charlton (also here).

Once you have the trajectories (\*), this is essentially **data mining code**.

<https://github.com/matsim-org/matsim-episim-example-project>.

Still, was nice to see that the technology held up to such a challenge.



# Back to transport planning ...

**Decarbonize traffic:** ZeroCUTS = *define* decarbonizing approaches (technologies/behavior) and compute costs/disutilities.

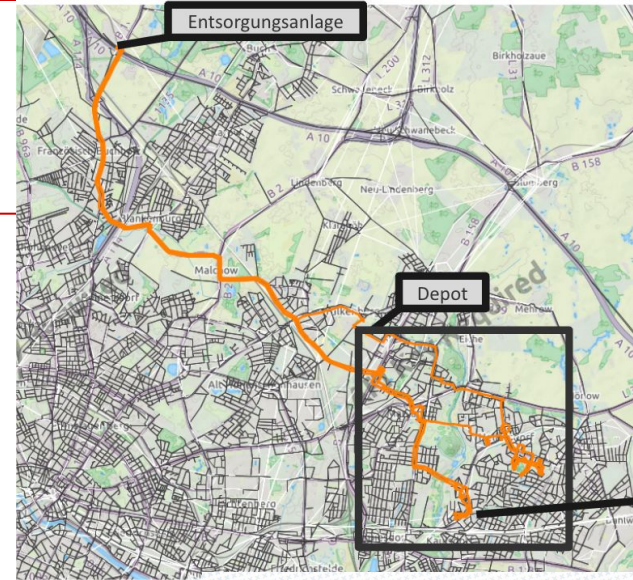
E.g.: Electric garbage collection. Feasible w/ existing vehicle types; fee + 20%. Acceptable?

**Freight modelling** (approx.  $\frac{1}{3}$  of CO<sub>2</sub> emissions)

**Mobility as a service** (DRT contrib; work lead by Michal Maciejewski).

- urban + rural areas
- experiments with real-world prototype vehicles

**Intermodal routing**



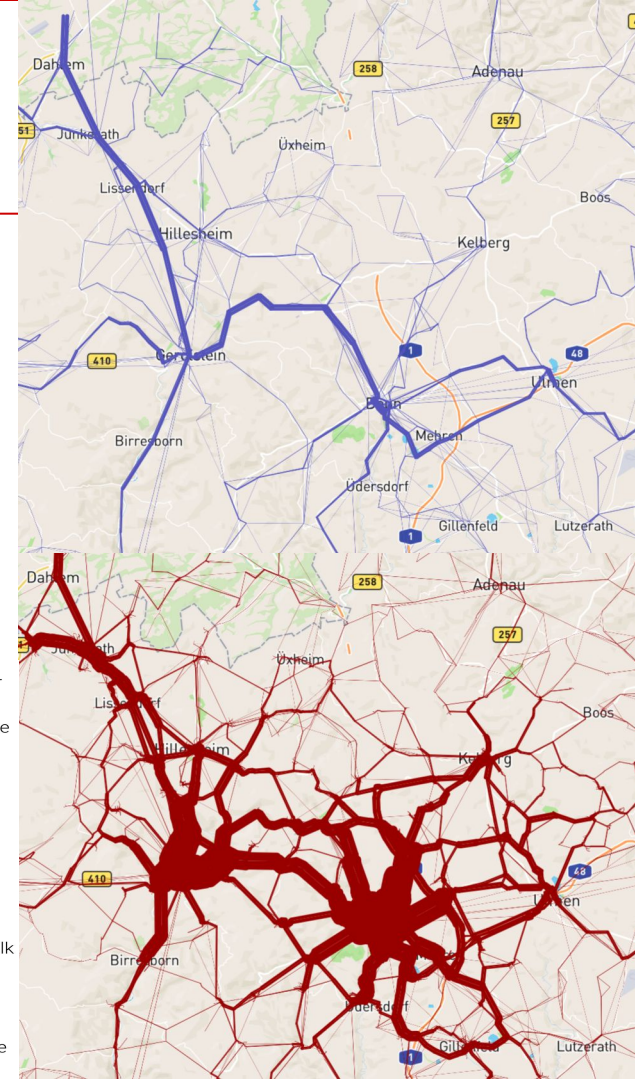
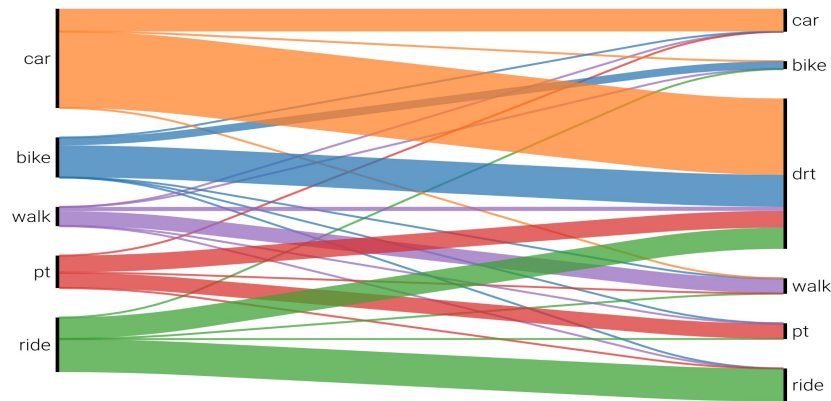
# Projects, ctd.

MATSim emissions → high res. meteorology model(s)

Bicycle expressways

Integration with land use modelling (→ Rolf Moeckel)

Visualization (→ Billy Charlton; <https://vsp.berlin>)



# Make MATSim easier to use

← teaching.

<https://matsim.org/userguide> updated book extract

<https://github.com/matsim-org/matsim-example-project>

<https://github.com/matsim-org/matsim-code-examples>

# Outlook

Little centralized developer interaction because of lack of time because of covid modelling.

More **practical planning** ← leave software stable (if possible). TeX/LaTeX example? “Public discourse”?

Much development in **DRT** (thanks to Michal).

“Mechanics” more robust than “behavior”.

Make MATSim **less monolithic and more a library** (not easy).

Make **simulated agents think more for themselves** (not easy). Charypar/Märki ... in C++ :-(.

Marcel Rieser?

Sebastian Hörl?