Simulation project I

Group question

New shopping mall

Group	Name
1	Hameri Tuure Eelis
	Murashkin Mikhail
	Lederrey Gael
	Buntinx Vincent Christian

Mayor M. wants to increase the prestige of Sioux Falls having a new shopping mall. The shopping mall could be open in two locations: Location A or Location B. The new shopping mall doubles the demand in all adjacent links (both directions). Mayor M. is mostly concerned on the impact on the queue length in a usual day.

Given these two possible alternative locations, evaluate the impact on traffic, report the results and suggest the best option.

Simulation project I

Group question

New bus lane

Group	Name
2	Binder Stefan Yves Gabriel
	Pereira Barbosa Santos Ana Clara
	Molyneaux Nicholas Alan
	Kirci Mervegül

Mayor M. is going to inaugurate a new bus lane (both directions). Two possible alternative lines have been proposed: Line A (red) or Line B (green). Due to the slow speed of buses, the travel time on all links increases by 50%. Mayor M. is mostly concerned on the impact on the travel time in a bad day.

Given these two possible alternative lines, evaluate the impact on traffic, report the results and suggest the best option.

Simulation project I

Group question

Pedestrian crossings

Group	Name
3	Carraro Luca
	Tarquini Danilo
	Besson Adrien Georges Jean
	Kuznetsova Ekaterina

Mayor M. wants to increase the safety of pedestrians. To protect them, pedestrian crossings are installed at selected intersections on two alternative paths. Two possible paths are: Path A (red) or Path B (green). The green phase for pedestrian reduces by half of the service rate at all the entering links at the intersections. Mayor M. is mostly concerned on the impact on the normal level of pollution. Vehicles release high level of Carbon monoxide (CO) emissions when queuing. According to Environment Protection Agency (EPA), the value of this emission is 388 g/time unit.

Given these two possible alternative paths, evaluate the impact on traffic, report the results and suggest the best option.

Simulation project I

Group question

New school

Group	Name
4	Damergi Eya
	Thurm Boris
	Fabietti Luca
	Shafieezadeh Abadeh Soroosh

Mayor M. is going to inaugurate a new school. The new school could be open in two locations: A or B. For safety reasons the speed on all the adjacent links (both directions) is reduced, therefore the travel time is double. Mayor M. is mostly concerned on the impact on the frequent total travel time in the entire city.

Given these two possible alternative locations, evaluate the impact on traffic, report the results and suggest the best option.

Simulation project I

Group question

New playground

Group	Name
5	Kruyt Albertus Christiaan
	Usui Takafumi
	Saijets Santtu
	Muscinelli Samuel Pavio

Mayor M. wants to convert a parking space in a playground. This conversion can take place in two locations: A or B. Removing the parking space means that vehicles cannot exit anymore from any of the adjacent links (both directions). Mayor M. is mostly concerned on the impact on the total travel time in particular unlucky days.

Given these two possible alternative location, evaluate the impact on traffic, report the results and suggest the best option.

Simulation project I

Group question

Advanced bike stop line

Group	Name
6	Lamotte Raphael Ali Francis
	Wolfensberger Daniel
	Voutilainen Arttu
	Gozel Olivia

Mayor M. wants to facilitate the use of bikes. To do this, he introduces advanced bike stop lines at selected intersections on two alternative paths. Two possible paths are: Path A (red) or Path B (green). The presence of cyclists reduced by half the service rate for all the entering links at the intersections. Mayor M. is mostly concerned on the probability of spillbacks (congestion keeps vehicles from entering the link, i.e. the queue is longer than the link).

Given these two possible alternative paths, evaluate the impact on traffic, report the results and suggest the best option.