

Fachbereich:	Network infrastructure
Leiter/in der Bachelor-Arbeit (inkl. E-Mail-Adresse):	Prof. Dr. Bryan T. Adey (adey@ibi.baug.ethz.ch)
Betreuer/in der Bachelor-Arbeit (inkl. E-Mail-Adresse):	Marcello Torres (gmarcelo@ethz.ch), Orlando Roman (roman@ibi.baug.ethz.ch); Arnor Elvarsson (elvarsson@ibi.baug.ethz.ch);
Titel der Bachelor-Arbeit:	Improving infrastructure in Chur
Beschrieb der Bachelor-Arbeit:	<p>The region around Chur is growing and needs are changing. This growth means that there are many future problems, e.g., clogged streets, excessive noise, sprawl. The changing needs mean that perhaps new infrastructure is required to hinder the consequences of natural hazards and to convert provide sufficient electricity to the region from renewable sources.</p> <p>While you are not yet an urban planning specialist, but a hard working intelligent and curious person, you are convinced that you can analyse the situation and come up with good proposals that can then be developed further by experts. This is a situation in which many who are trying to provide global solutions to problems, find themselves.</p> <p>Your work will involve 1) conducting a situation analysis using publicly available information to clearly identify the problem, 2) formulating clear goals and constraints that will need to be taken into consideration when determining an optimal solution, 3) generating multiple possible solutions, 4) analyzing the solutions to determine which are feasible, and then 5) determining the optimal solution. Your work will end with a concrete proposal of how the infrastructure in the region should be modified to ensure, and perhaps improve, the quality of life in the years to come.</p>
Besonderes: (Bemerkungen zur Gruppenarbeit u.ä.)	
Gruppenarbeit:	Ja
Anzahl Personen pro Gruppe:	2
Total Anzahl Personen für Thema:	6

Fachbereich:	Infrastructure management
Leiter/in der Bachelor-Arbeit (inkl. E-Mail-Adresse):	Prof. Dr. Bryan T. Adey
Betreuer/in der Bachelor-Arbeit (inkl. E-Mail-Adresse):	Yushu An (an@ibi.baug.ethz.ch), Josia Meier (meier@ibi.baug.ethz.ch), Steve Chuo (chuo@ibi.baug.ethz.ch), Simon Hässig (haessig@ibi.baug.ethz.ch)
Titel der Bachelor-Arbeit:	Estimation of financial needs and condition of the locks and weirs of Germany
Beschrieb der Bachelor-Arbeit:	<p>Infrastructure managers are required to build arguments for funding at the beginning of every budget period. To be well prepared, it is necessary to have solid estimates, even if general, of the condition of the infrastructure being managed, and the amount of work required to ensure that the infrastructure will provide an adequate level of service in the foreseeable future. To deal with the fact that there will be pressure to spend less, it is also useful to have arguments to explain quickly how the infrastructure will be affected if the requested amount of money is not made available.</p> <p>In this project, you will learn how to build a solid argument to obtain the funding required. The work will involve 1) selecting a set of infrastructure objects together with the supervisors, 2) classifying the infrastructure, 3) identifying condition states for each class of objects, 4) modelling their deterioration processes, 5) determining the possible interventions on each of the objects as well which ones should be executed in which condition state, 6) estimating the effectiveness of the interventions, 7) determining a procedure to identify which should not be executed if funding is not available, and 8) developing appropriate informatic support so that you are able to quickly demonstrate what will happen when there are budget changes.</p>
Besonderes: (Bemerkungen zur Gruppenarbeit u.ä.)	
Gruppenarbeit: Anzahl Personen pro Gruppe: Total Anzahl Personen für Thema:	Ja 2 4