

Summary

The Sustainable Transportation Analysis and Rating System (STARS) is a planning, analysis and certification framework for transportation plans and projects. It helps users identify triple bottom line outcomes to achieve, then analyse a range of capital and program strategies to achieve the outcomes. STARS users evaluate multimodal capital and program strategies, not just construction design options.

Certifying body: North American Sustainable Transportation Council & Portland Bureau of Transportation

Applicable sectors					Award types				
General civil	Transport only	Buildings	Public realm	Community / precinct	Design	As built	Operation	Planning	Other

Country	USA	Sustainability criteria There are four credit categories for STARS Project: 1. Access 2. Integrated process 3. Climate & energy 4. Cost effectiveness analysis There are 7 categories for STARS Plan: 1. Integrated process 2. Community context. 3. Access & mobility 4. Safety & health 5. Economic benefit 6. Cost effectiveness 6. Climate pollution & energy use 7. Ecological function There is a third STARS tool for credits on Safety, Health and Equity. This can be used as a stand-alone tool, but will be integrated into STARS-Project. There are 3 credit categories for STARS-Safety, Health & Equity: 1. Safety 2. Health 3. Equity The Council is developing STARS 2.0, which will integrate STARS-Project, STARS-Plan and STARS-Safety, Health and Equity into a single manual.
Deployment & developments	Conceived in 2008, STARS Project credits were initially developed in 2010. Development of STARS Plan started in 2011. Currently, there are three main tools: "STARS-Project", "STARS-Plan", and "Safety, Health, & Equity Credits". STARS is different from INVEST, Envision, Greenroads and GreenLITES through taking a systems approach rather than focusing on specific infrastructure projects. STARS is completing the pilot phase, with a STARS 2.0 manual due to be released in the second half of 2013. It is being used by some regional, city, county and transit organisations for transport planning and project development on the US west coast.	
Applicants	Directed towards supporting state departments of transportation, regional agencies, cities, and counties. Users are likely to be project managers, consultants, elected officials and planners.	
Government endorsement	Developed in conjunction with Portland Bureau of Transportation	
Support to applicants	Most projects start with a one-day STARS workshop, helping the development of a more detailed work plan. Pilot manuals are available to download. The manuals provide a description of the credits, performance measures, examples and relevant resources.	
Tailoring	STARS-Project contains mandatory credits, then "user-choice" credits to make up a minimum requirement of credits to pass.	
Fee	TBC - currently still in pilot phase	
Assessment: scoring, performance levels, evidence collection	For STARS-Project, the first credit in each category is required, and five user-choice credits must be achieved for pilot certification. At least two user-choice credits must be from the Access category, and two from Climate and Energy. Most required credits are performance-based, requiring the establishment of performance goals, or analysing potential strategies. Some credits have a "performance path" and a "prescriptive path" option. Users do their own modelling for a performance path, where the prescriptive path defaults to recommendations provided by STARS. Documentation must be provided to show achievement of credit. If a project passes the minimum credit requirement, it will be certified. For STARS-Plan, there is 1 credit for each category. To achieve a credit an applicant must demonstrate their plan or project is likely to achieve substantive progress; e.g. the plan or project must show substantive evidence of on-going and continuous reduction in fossil fuel consumption and greenhouse gas emissions, beyond the use of new fuels and vehicles, to achieve the climate & energy credit. STARS 2.0 will provide different levels of achievement awards.	

Case study

Project name: Fourth Plain Transit Improvement Project
 Location: Vancouver and Clark County, Washington state, US
 Applicants / proponent: C-TRAN, the Clark County transit agency
 Award: not applicable

Brief project description: The Fourth Plain Transit Improvement Project used STARS to analyse the economic and environmental consequences of Bus Rapid Transit (BRT) and Transportation System Management (TSM) alternatives. The STARS analysis showed significantly greater economic and environmental net benefits (benefits minus costs) for the BRT alternative. The STARS analysis was used to inform a successful grant funding application.

STARS Fourth Plain TIP Dashboard

TSM	BRT	...over the 20 year lifetime of the project...
\$12.91	\$8.02	per boarding ride
\$33.5 M	\$93.4 M	amount saved by local taxpayers
\$71.6 M	\$125.3 M	transportation costs saved
561,000	981,700	gallons of <i>gasoline saved</i>
5,000	8,700	metric tons of <i>CO2 (GHG) not emitted</i>

Left: STARS assessment results.

Below: Example of the proposed BRT system through an intersection.

