

Sustainable Transportation Analysis & Rating System (STARS) Performance Measures

Transportation Research Board
May 19, 2011

What is STARS?

Sustainable Transportation Analysis & Rating System

Like LEED + Living Building Challenge, but for transportation

Framework for developing and/or rating:

- Projects

- Plans

- Programs

Voluntary, national system for public agencies & private sector consultants

What is STARS?

Performance-based system focused on:

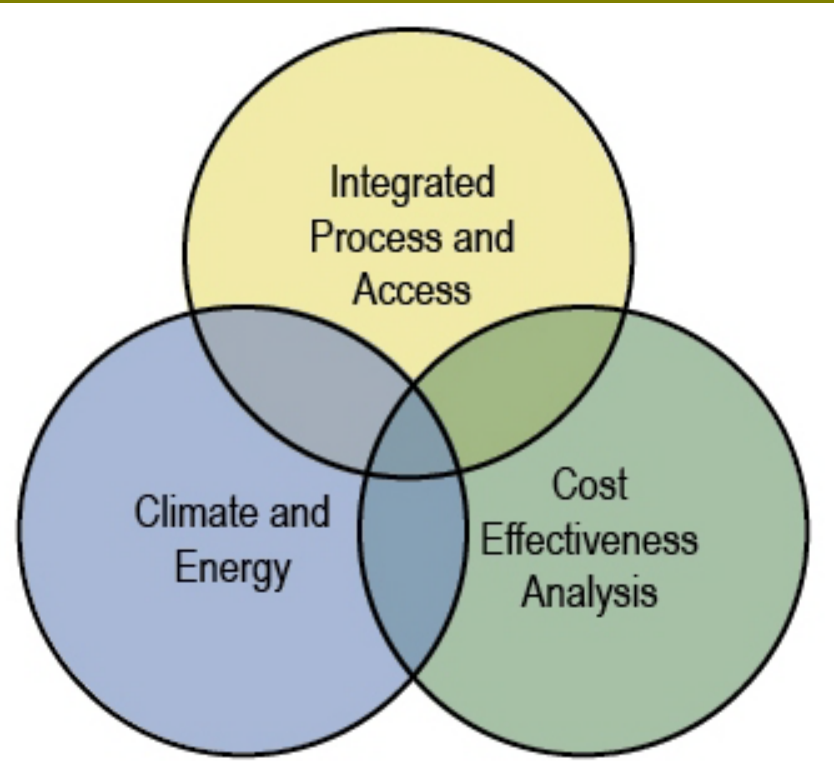
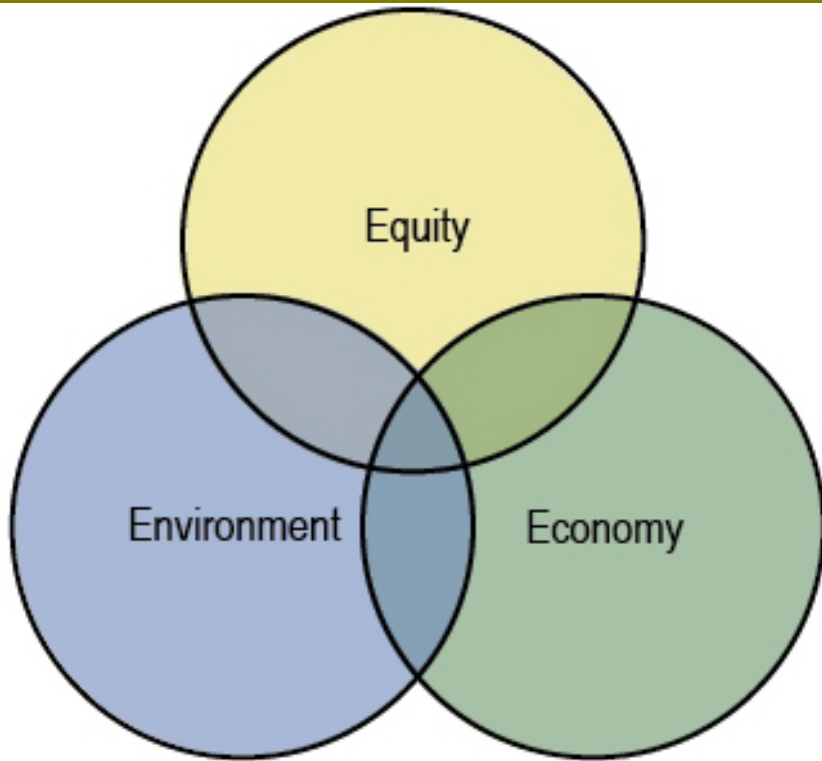
- Access
- Climate + Energy
- Cost Effectiveness and local economic benefit

Multimodal: Compares performance across all modal strategies (unique to STARS)

Full life cycle analysis (unique to STARS)

12 credits developed in 2010; pilot project phase 2011

Triple Bottom Line Metrics



Who Is Developing STARS?

- ☆ North American Sustainable Transportation Council
- ☆ Portland Bureau of Transportation
- ☆ Santa Cruz County Regional Transportation Commission
- ☆ CH2M HILL
- ☆ Parsons Brinckerhoff
- ☆ Confluence Planning
- ☆ ECONorthwest
- ☆ David Evans & Associates
- ☆ Brightworks
- ☆ National peer reviewers (public, private, academic)

Credit Structure

Five “required” credits

24 optional credits

12 “core” credits developed for pilot phase

Not all credits applicable to all projects

Credits accrued to earn certification

Certification earned at:

- Completion of evaluation
- Implementation
- Performance: Operations

3 to 5 Step Process

Create a Multi-Disciplinary Team & Host Team

Training & Sustainability Workshops

Backcast goals: Access, Climate + Energy, Econ

Evaluate Strategies

3 to 5 Step Process

Create a Multi-Disciplinary Team & Host Team

Training & Sustainability Workshops

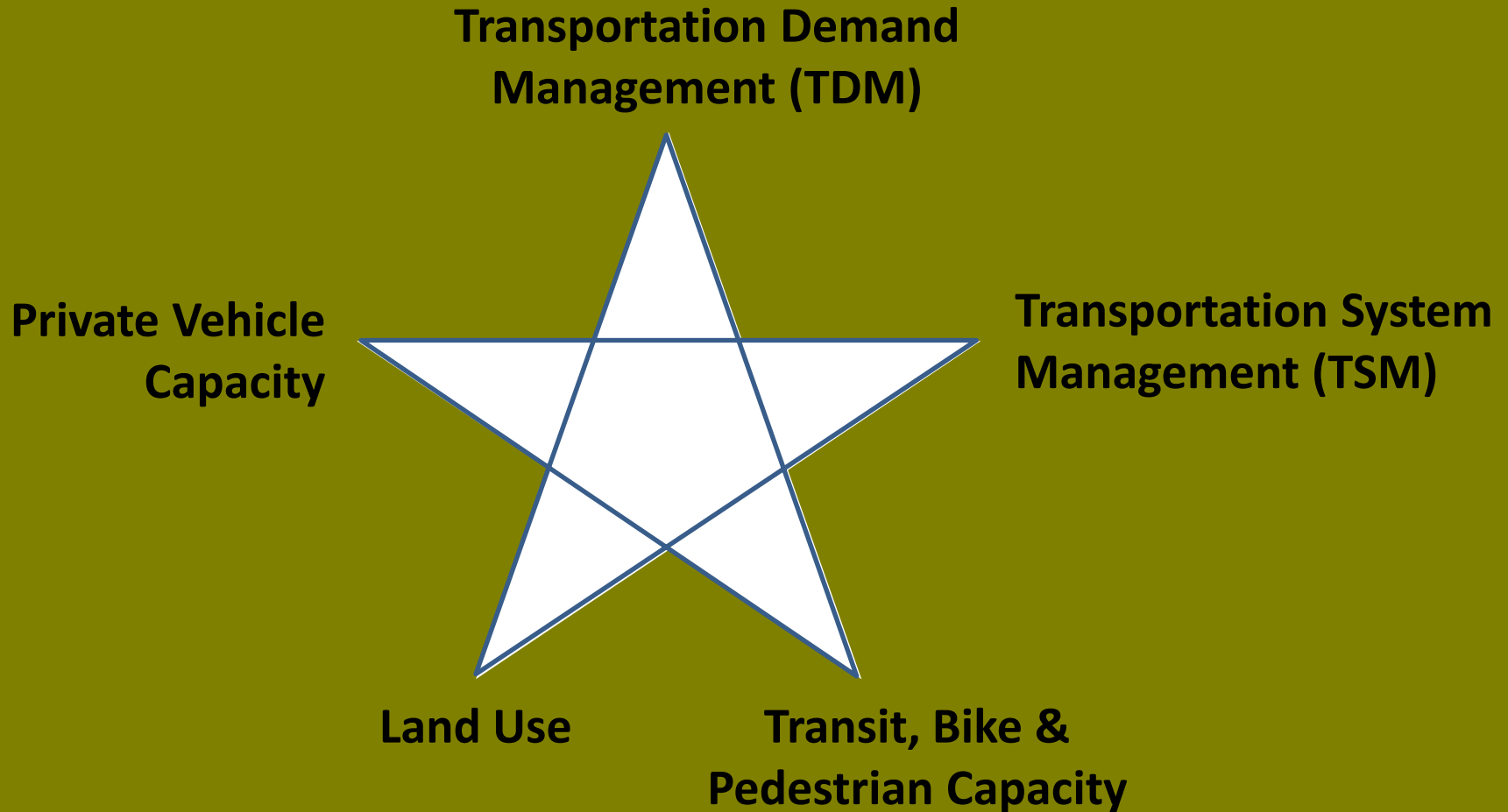
Backcast goals: Access, Climate + Energy, Econ

Evaluate Strategies

Select Alternatives & Implement

Monitor & Improve Performance

Analyze Strategies to Achieve Objectives



STARS Performance Measures: Access

Modal Access

Mode Split

Vehicle Miles Reduced

Travel Time Consistency

Travel Quality: Safety, User
Satisfaction, Physical Activity

Modal Capacity

STARS Performance Measures

Greenhouse Gas Emissions

Fossil Fuel Consumption

Cost Effectiveness

STARS Performance Dashboard

	Without STARS	With STARS
Travel Time Consistency	-6%	+9%
Vehicle Miles Traveled	+8%	-7%
Mode Split	+7%	+12%
Greenhouse Gas Emissions	No change	-11%
Economic Benefit	Base case	+ \$7m/year

Potential Benefits

Simplifies and standardizes projects and plans around
“Triple Bottom Line” goals

Allows direct comparison of alternatives and projects using
Triple Bottom Line metrics

Identifies “Green Dividend” – money leaving the local
economy is retained by reducing fuel spending

Saves time and money via simplified process and focused
goals and objectives

Increases healthy transportation: walking, cycling, transit
by employees & residents

Helps meet economic, climate, livability and equity goals

Economic Benefits

24.3 Median commute miles per day for
33 most populous US metro areas

20.3 Average daily miles for
Portland area commute

2.9 B Miles saved compared
to median

Transportation costs saved
compared to median \$1.1B

\$15 per hour Estimated value of time
spent commuting

100 million hours less
traveled per year saves \$1.5B

Total savings
per year \$2.6B



Clark County, WA
Portland, OR

Santa Cruz, CA

STARS Pilot Projects

CA Highway 1 (Santa Cruz County)

C-TRAN Fourth Plain Boulevard

Sustainable Transportation Council Role:

- Sustainability workshops for project team & stakeholders
- Guidance to consulting team analyzing solutions
- Potential certification

Cost is \$5K to \$75K

STARS Pilot Projects

Characteristics of Best Potential Pilots:

- Congested corridor
- Cost constraints
- Interest in mix of road/auto, transit, bike, ped, operational & land use solutions
- Interest in sustainability: health, local economic benefit, reducing greenhouse gas emissions, equity
- Roadway corridor, transit corridor or multimodal corridor project
- Range of public opinions about potential solutions

Status & Next Steps

STARS-Project

- Pilot Project Application Manual published
- Applying 12 core credits to five projects in 2011
- Developing training program and credit certification team
- 2012 national roll-out

STARS-Plan

- Phase 1 goals, outcomes and process being developed in early 2011

Questions?

Peter Hurley

peter.t.hurley@portlandoregon.gov

503.823.5007

www.GettingAroundPortland.org