STARS & Fourth Plain Transit Improvement Project
Evaluating Transportation Projects with STARS
Oregon-Washington APA Conference
October 20, 2011

STARS Performance Dashboard

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<tr>
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<tbody>
<tr>
<td>Ridership</td>
<td>+9%</td>
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<tr>
<td>Travel Time Consistency</td>
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<td>Economic Benefit</td>
<td>-$2m/year</td>
<td>+$3m/year</td>
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What is STARS?

- Sustainable
- Transportation
- Analysis &
- Rating
- System

What is STARS?

- Voluntary, national system for public agencies & private sector consultants
- Helps develop and/or rate:
  - Projects
  - Plans

Designed to:
- Simplify evaluation & decision-making
- Improve the performance of alternatives
- Highlight alternatives which benefit people, prosperity and planet
- Broaden public support

Triple Bottom Line = 3 Dimensional Thinking
3 to 5 Step Process

- Collect Baseline Data & Host Training Workshops
- Backcast objectives: Access, Climate + Energy, Economic
- Evaluate Strategies (certify?)
- Select Alternatives & Implement (certify?)
- Monitor & Improve Performance (certify?)

Analyze Strategies to Achieve Objectives

- Transportation Demand Management (TDM)
- Transportation System Management (TSM)
- Private Vehicle Capacity
- Land Use
- Transit, Bike & Pedestrian Capacity

STARS is Modular

- Can use from 1 to 12 credits
- Most credits can stand alone

Who Is Developing STARS?

- North American Sustainable Transportation Council
- Portland Bureau of Transportation
- Santa Cruz County Regional Transportation Commission
- National private sector transportation & green building firms, including PB & CH
- Academic peer reviewers

Where is STARS Being Applied?

Fourth Plain STARS Work Plan

- Applies to:
  - Goals & Objectives
  - Evaluation Criteria
  - Alternatives Development & Analysis
  - LPA Selection
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What Is STARS Plan?

• A decision-making tool and sustainability framework for transportation plans
  • Develop goals and objectives
  • Evaluate potential policies and projects
  • Intentionally multi-dimensional in its approach
  • Phase 1 complete in November

Why Use STARS?

• Simplifying and standardizing projects and plans around the “Triple Bottom Line” approach
  • Allowing direct comparison of alternatives and projects using Triple Bottom Line metrics
  • Identifying “Green Dividend” – money leaving the local economy is retained by reducing fuel spending

How is Eugene Using STARS?

• As a tool to identify goals, objectives, and policies for the Eugene TSP, using the triple bottom line approach
  • As a framework for engaging key stakeholders and community leaders on the concept of sustainability and sustainable transportation in Eugene

Why Use STARS?

• Save time and money via simplified process and focused goals and objectives
  • Increase healthy transportation: walking, cycling, transit by employees & residents
  • Help meet economic, climate, livability and equity goals
Fourth Plain Transit Improvement Project

Transit Project Purpose and Need
- Capacity issues:
  - >6,000 rides/day, 30% of total C-TRAN system
  - Overcrowding during much of day
  - Wheelchair/disabled areas frequently filled
- Poor service reliability:
  - 30-40% weekday runs are late
- Continuing increases in delays and travel time:
  - Travel times up 50% over past 20 years
  - Expected to increase as travel demand grows

Fourth Plain Study Area

Alternatives Narrowing Process

Survey Information
- On-Board Survey
  - Statistically valid, 95% confidence level
  - ~10% of riders surveyed
- On-Line Survey
  - Not scientifically valid
  - Completed for project scoping, issues identification
  - >400 responses

Transit Use – On-Line Survey

n=438

What is your primary mode of transportation through the corridor?

- Drive alone, 55%
- Capped with others, 15%
- Walk, 25%
- Bicycle, 2%
- Bus, 2%
Transit Access and Values

Is it more important to walk a shorter distance to your transit stop or to have a quicker trip?

- How far are you willing to walk to access transit?

- More than 1/2 mile
- 1/2 to 1 1/2 mile
- 1/4 to 1/2 mile

More than 1/2 mile: 16%
1/2 to 1 1/2 mile: 48%
1/4 to 1/2 mile: 36%

Is it more important to walk a shorter distance to your transit stop or to have a quicker trip?

- Shorter distance: 35%
- Quicker trip: 64%


go back

Rider Demographics

- 85% household income <$35,000
- Median age group: 25-54
- ~40% of riders unemployed, another 25% part-time
- 50% have no auto available to make the trip, another 28% have one auto available in household
- Almost 30% indicate physical, mental, or sensory disability (some multiple)
- 22-24% of riders are ethnic minorities


go back

Improvement Values

Most important priorities for transit in the corridor:

- Safety and security
- Increased bus capacity
- Improved aesthetics of the corridor
- Improved pedestrian crossings
- Safety and security
- Increased pedestrian/bike access
- Reduced energy consumption
- Increased awareness of business/services along corridor
- Cost effectiveness of the project
- Economic vitality of the corridor
- Improved transit travel time/predictability
- Clean air/environment


go back

Relative Share of Trips

- Portland: 26%
- Mall: 18%
- Downtown Vancouver: 26%
- East Corridor: 4%
- West/Central Corridor: 17%
- Clark College/VA area: 9%
- Percent of all trip ends (each trip has an origin end and a destination end).


go back

Bus Rapid Transit Parameters

- Signal priority (possibly with queue jumps/bypasses)
- Enhanced stations
- Level boarding with low-floor buses & raised platforms
- Off-board fare collection
- Branding
- 10-minute peak/15 minute off-peak service (replaces existing service)
- Stop spacing: 1/4 to 1/3 mile


go back
Other BRT Considerations

- Queue jumps & bypasses
- CPTED design principles
- Innovative fare structure
- Bikes on-board
- Station art
- Information kiosks (next ride, area businesses)

Your Task

- Identify the most comprehensive and beneficial project strategies for the segment
- Use your best professional judgment
- Optimize your project benefits by:
  1. Increasing ridership, including for disadvantaged/choice-constrained (disabled, low income, people without cars (elderly, youth) (people)
  2. reducing fossil fuel energy (petroleum) use and climate pollution (greenhouse gas emissions) (planet)
  3. increasing the use of local businesses and reducing money sent out of the community for petroleum (prosperity)

Project Limitations

- Total budget: $7 Million
- Mode: Bus Rapid Transit
- No New Travel Lanes
- C-TRAN is not a developer
- Parallel Route (SR 500) will be upgraded to a freeway in long-term future

Strategies & Costs

- Focused on Falk Road to Andresen Road
- Small businesses, mixed types of uses
- Kyocera site: mostly undeveloped, for sale
- Medium-to-high density residential along and adjacent to corridor
Fourth Plain Boulevard Traffic Information

- Current Volumes
  - ADT: 20-25,000
  - Peak hour/peak direction: 800-1,200
  - 60-40 split
  - Truck percentage: 2-3%
- 2035 Volumes
  - ~30-35% higher than existing
  - Split remains similar to today’s

Transit Information for STARS Exercise

- Current ridership
  - ~6,000 riders/day, this part of corridor
  - ~10-15% transit mode share
  - Peak: 9AM to 4PM
  - Evenly split directionally
  - Boardings: Falk-Stapleton ~370/day, Stapleton-Andresen ~520/day
- 2035 Volumes
  - ~40-50% higher than existing

Getting Started

- Pick a Project Manager (table facilitator)
- Pick Grant Administrator (keep track of costs)
- Determine the BRT lane configuration (exclusive or BAT Lanes)
- Determine the transit frequency (15 minute or 10 minute)

Who to talk to?

<table>
<thead>
<tr>
<th>Staff and Role</th>
<th>Contact</th>
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<tbody>
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www.GettingAroundPortland.org