

Strategic Tools for Performance-Based Planning

Using **strategic tools** for long range **performance-based planning** is becoming increasingly valuable as a means to help state and metropolitan area governments select policies and actions to address pressing issues that are fraught with uncertainty. Strategic tools are designed to address a wide range of trends and policies, rather than focusing on details. As a result, many alternative futures and policies can be evaluated, enabling planners to reason more effectively about intended and unintended consequences of prospective policies and test plan resilience to uncertain external influences. Performance metrics set in a strategic phase may be incorporated into subsequent planning, programming and project prioritization processes, as well as monitor plan performance that can in-turn influence long range planning decisions. A network of regional agencies, with the support of the Federal Highway Administration (FHWA), has come together to accelerate the adoption and deployment of strategic planning tools to aid in performance-based planning.



VisionEval is a collaborative project that will merge the successful GreenSTEP family of strategic planning tools into an open-source framework with a supporting community of partner agencies and others sharing in its use and enhancement. The goal is to support a broad array of potential tool uses and enable pooled enhancements to expand the types of outcomes measured or refine the specificity of transportation and land use solutions considered. The work to date by the founding FHWA-Oregon DOT partnership has focused on the technical components of establishing the common programming framework. Efforts are underway to

build a supportive community around the tool, drawing from successful past and interested future users nationally, who will both define the policy needs and uses of these tools, and set their direction moving forward. The VisionEval framework is built on the following models:

The **GreenSTEP** model was the first of these models to be developed. It was developed by the Oregon Department of Transportation (ODOT) to assist in the development of plans to reduce greenhouse gas (GHG) emissions from light-duty vehicles to meet Oregon State statutory goals. GreenSTEP models the effects of many different factors (e.g. transportation supply, prices, land use, etc.) on household vehicle ownership and use, and the effects on emissions, traffic congestion, etc.



The **RSPM** (Regional Strategic Planning Model) was developed by ODOT as an offshoot of the GreenSTEP model to support the preparation of metropolitan area scenario plans. The name reflects a broadening of the policies, beyond state statutory requirements.

The **RPAT** (Rapid Policy Analysis Tool) was developed under the federal Strategic Highway Research Program (SHRP2). The model was developed to help planners evaluate the potential effect of growth policies on regional travel. Portions of the GreenSTEP model were used in RPAT, but substantial revisions were made to the code, including use of land use place type categories.

For more information:

VisionEval: <https://gregorbj.github.io/VisionEval/>

GreenSTEP: <https://www.oregon.gov/ODOT/TD/TP/pages/greenstep.aspx>

RSPM: http://www.oregon.gov/ODOT/TD/OSTI/Pages/scenario_planning.aspx#reg

RPAT: <https://planningtools.transportation.org/551/rapid-policy-analysis-tool.html>

VisionEval Pooled Fund Partnership



Efforts are underway to initiate a **pooled fund project** hosted by **FHWA** to support VisionEval outreach, development, technical maintenance, and tool upgrades. The pooled fund will be maintained and governed by a **community** of agency sponsors, active users and developers. Partners will both define the policy needs and uses of these tools, and set the direction for **future tool development**. VisionEval will also provide forums for agencies to share **best practices** in applying strategic planning tools and, customizing the applications for local conditions in support of long range policy conversations.

VisionEval Open Source Project Development

In **Phase 1** of the VisionEval project, the founding FHWA-Oregon DOT partners successfully completed a proof-of-concept software framework capable of implementing the existing strategic planning models into the open-source VisionEval project. In **Phase 2**, FHWA, AASHTO, and ODOT are partnering to first transfer the **Regional Strategic Planning Model (RSPM)** and the scenario viewer into the VisionEval framework. The **Rapid Policy Assessment Tool (RPAT)**, and the statewide **GreenSTEP** models will follow. The resulting models will provide the base for the **Phase 3** pooled fund project to develop additional packages that can be easily transferred among these implemented models. VisionEval and all model enhancements will be **freely available**, flexible, and easy for users and contributors to understand, assemble, and extend in a plug-and-play fashion. A modular approach could also unleash academic extension of the tools in non-transportation areas (e.g., health, water use, building energy).

Open Source Projects and the FHWA Transportation Pooled Funds Program

Open source projects provide for robust collaboration, investment efficiency, and quality control benefits while ensuring transparency and access to data. FHWA Transportation Pooled Funds (TPF) programs allow federal, state, and local agencies and other organizations to combine resources to support transportation tool development and research to meet shared needs. Pooling resources reduces marginal costs, and provides efficient use of taxpayer dollars. FHWA will be the lead agency coordinating the VisionEval pooled fund efforts.

Open Source Project Benefits

- Credible, maintained, documented tools
- Clear standards and development guidelines
- Collaborative code maintenance and updates
- Active user and developer communities
- Knowledge sharing among partner agencies

Financial Contributor Benefits

- Cost-effective tool upgrades and investment efficiency
- Voting privileges to prioritize enhancements
- Expanded consultant resources
- Early review and use of the implemented models
- Technical support for model implementation

Proposed Details of Pooled Fund Partnership

- For full partner benefits, a 3-year funding commitment; **\$15K/yr for MPOs and \$25K for DOTs** (paid annually), with potential discounts for in kind contributions if necessary for participation
- Project Technical Advisory Committee (TAC) will determine Statement of Work and selection criteria
- 3-yr Road Map with annual work plan developed/approved by TAC; non-consensus decided by majority rule

To learn more about the VisionEval pooled fund visit the website at <http://pooledfund.org/Details/Solicitation/1446>

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Don't miss your opportunity to be a founding member of this exciting partnership!

Potential VisionEval Enhancements

- Unified mode shift module
- Local/Long distance freight modules
- Lifecycle infrastructure costs & value
- Safety from ITS, C/AV, bike/ped policies
- Roadway reliability
- Congestion impacts of street connectivity, freeway exit spacing
- Impact of bike/ped network connectivity
- Emerging modes – Telework, shared ride
- Intercity travel
- Work location and attributes
- 5D Land use sensitivity & transit access
- Housing affordability indicator