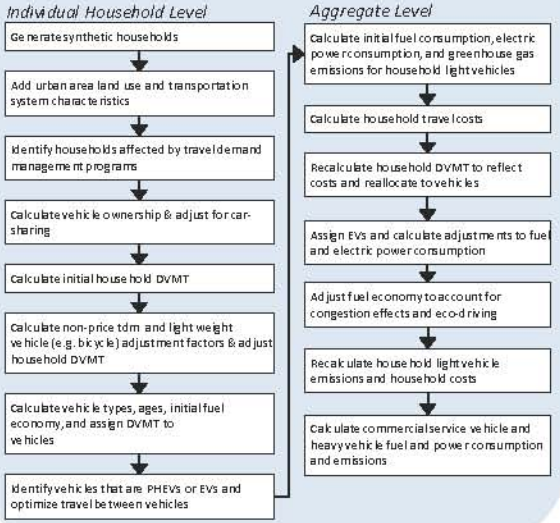
Transportation Research and Modeling Services
Metropolitan GreenSTEP

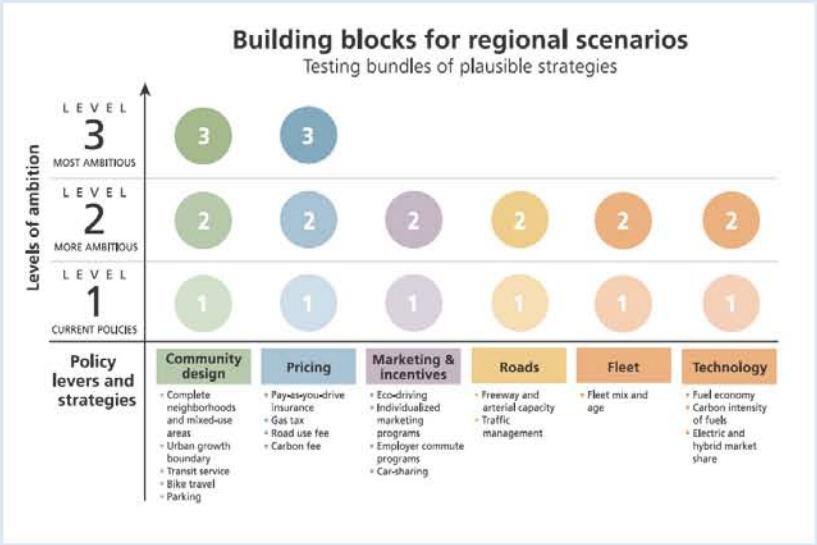
Overview

- GreenSTEP, a new model developed by ODOT at the request of the Oregon Global Warming Commission, is designed to assess the effects of a variety of policies and other factors on transportation sector greenhouse gas (GHG) emissions.
- GreenSTEP is intended to complement Metro's travel demand model. While travel models are concerned with forecasting traffic and transit volumes on specific roadways in urban areas, GreenSTEP focuses on total household vehicle travel, energy consumption and GHG emissions regardless of where the travel occurs.
- GreenSTEP models the following:
  - GHG emissions resulting from household light duty vehicle use, calculated by estimating vehicle ownership, vehicle travel, fuel consumption and GHG emissions at the individual household level
  - Estimated GHG reduction potential of both current plans and policies, as well potential future alternatives
- Metropolitan GreenSTEP is a modified version of the State GreenSTEP model. Metro is currently using this metropolitan scale version for the Climate Smart Communities Scenario Project.
- GreenSTEP is composed of a number of modules that are applied in a linear fashion. The following is the general design structure of the GreenSTEP model.



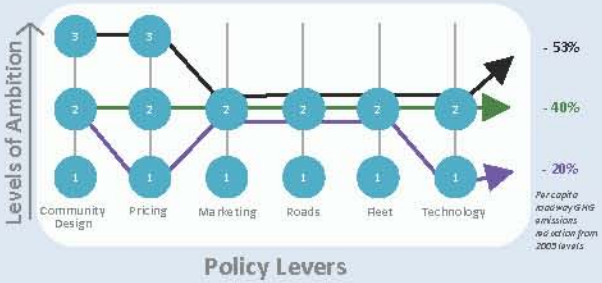
Key Features

- GreenSTEP analyzes the effects of policy strategies that are grouped into categories, or "policy levers"
- Each policy lever can be applied at various levels of ambition. The user defines the unique input level for each policy strategy, which are then tested as a bundle of strategies.



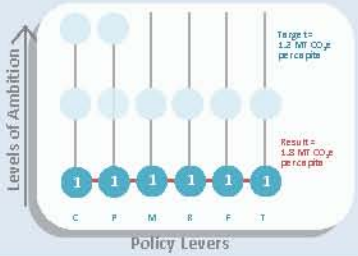
Estimated reduction effect of policy combinations

Circles represent different levels of ambition for each policy lever



Evaluating the Reference Case

- All future scenarios are evaluated off of existing plans and policies, e.g. the *Reference Case*



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