



## Integrating Smart Growth Strategies within Transportation Planning

### *Using land use strategies to reduce congestion*

Although considerable research has been conducted on the transportation-land use connection and the impact of smart growth strategies on daily travel, there is a lack of practical guidance and tools for translating these insights for regional planning. This creates a challenge for estimating the effects of smart growth development patterns and transportation management on traffic conditions and congestion.

For smart growth to be a component of regional congestion relief, transportation planners need to be able to assess what types of “smart growth development” are most suitable for given environments, as well as how best to link the development strategies to specific transportation solutions.

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### *The Effect of Smart Growth on Daily Travel*

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## The Solution

Developed through the second Strategic Highway Research Program (SHRP2), the Smart Growth Area Planning or SmartGAP provides planners with scenario-forecasting tools they can use to estimate smart growth’s effect on peak-hour travel, as well as its effects on sprawl, energy reduction, active travel, and carbon footprints. The new research report and software tool **enable state transportation and regional agency planners to estimate the effects of different smart growth strategies on regional peak-hour travel demand and other transportation parameters.**

The SmartGAP tool allows a user to input different scenarios for land use, population growth, and transportation strategies, and then create a model of their effects on several critical performance areas. SmartGAP tracks individual households and businesses in a region to determine transportation impacts from growth. The tool is free, open-sourced, and user-friendly. A model user’s guide was developed to support implementation, and SmartGAP has been tested in three pilot locations.

### Scenario forecasting tools quantify smart growth strategies

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#### FOCUS AREA: Capacity (C16)

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This user-friendly IT tool allows planners to forecast the effects of smart growth on travel demand.

#### Save Lives

- Smart growth communities encourage walkability, calm traffic, and contribute to safer streets.
- Smart growth solutions reduce emissions and contribute to healthier lives.

#### Save Money

- Smarter growth patterns may reduce the need for highway expansions.

#### Save Time

- The tool can produce numerous forecasts that will expedite analysis of transportation plans and programs.

## The Benefits

SmartGAP offers a reliable tool that transportation and land use planners can use to better understand how smart growth strategies will influence travel demand, the environment, the economy, and local communities. This capability reports smart growth benefits from induced travel and from both peak and non-peak travel. Agencies that lack travel demand models may especially benefit from this new tool.

## How can you learn more?

The SmartGAP tool will be available on the TRB website in early 2013. The report will be published in early 2013 and will be available at [http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Pages/Smart\\_Growth\\_486.aspx#reports](http://www.trb.org/StrategicHighwayResearchProgram2SHRP2/Pages/Smart_Growth_486.aspx#reports). For more information contact Eric Pihl at FHWA, [eric.pihl@dot.gov](mailto:eric.pihl@dot.gov); Matt Hardy at AASHTO, [mhardy@aaashto.org](mailto:mhardy@aaashto.org); or Steve Andrie at TRB, [Sandrie@nas.edu](mailto:Sandrie@nas.edu).



### About SHRP2 Implementation

The second Strategic Highway Research Program is a national partnership of key transportation organizations: the Federal Highway Administration, the American Association of State Highway and Transportation Officials, and the Transportation Research Board. Together, these partners conduct research and deploy products that will help the transportation community enhance the productivity, boost the efficiency, increase the safety, and improve the reliability of the Nation's highway system.

## Strategic Highway Research Program

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