**NCHRP Project 08-36**

**Proposed Research Problem Statement**

1. **Title** ***Sketch Planning Tools for Regional Sustainability***
2. **Background**

For at least a decade, planning at the regional scale has relied on sketch-level scenario-building methods and tools that have escaped serious attention and critical review. Indeed, in a 2008 publication by the Lincoln Land Institute on Planning Support Systems (Brail, 2008), the developer of one of the most popular of these sketch tools, INDEX, argues that “[t]o help prospective users sort through tool choices, independent, rigorous evaluation of tool capabilities and performance is needed.”

These sketch planning tools need to be distinguished from existing regional transportation models and integrated land use/transportation models (e.g. UrbanSim, PECAS), which have been the object of critical review in several Transportation Research Board (TRB)- sponsored publications. The complexity of regional and integrated land use/transportation models , their cost, and slowness have led to their adoption by only a handful of the largest, most sophisticated metropolitan planning organizations (MPOs), and then mostly for use by technical staff. Sketch tools, on the other hand, have received far less critical assessment, yet they have already been deployed by citizens groups, advocacy organizations, and hundreds of local, state and regional agencies for a variety of planning tasks. This group of tools , which including INDEX, i-Places, CommunityVIZ, MetroQuest, Envision, PlanMaster, *Whatif* and in-house applications, are being used at the regional scale to handle a wide range of tasks including public outreach, scenario construction, indicator creation and outcome evaluation, all under the sustainability banner.

1. **Statement of Urgency**

The adoption in California of SB 375 in 2008, with its focus on GHG emission reductions, and over a dozen state climate plans with similar goals, have added to the pressure on practitioners to utilize the most appropriate analytical tools that can also meet high standards of robustness, defensibility, transparency, speed and affordability. The HUD/EPA/DOT Sustainability grants require regions to develop Regional Development Sustainability Plans (RSPDs) and ask applicants to “conduct scenario planning that allows the RSPD to project a variety of economic growth possibilities and anticipate responses to each of them”. The resultant avalanche of regional planning to be conducted over the next few years will accelerate practitioners’ need for good advice on what regional models to use and how to incorporate those models into existing transportation planning practice.

1. **Project Objective(s)**

The objective of this research will be to identify the generally-available regional sketch planning tools and how they are currently being used, evaluate their strengths, weaknesses and required resources in a diversity of contexts, and identify how they are being integrated into regional transportation planning practice.

1. **Relationship to Existing Body of Knowledge**

A few reviews of such tools have been completed but these evaluations have been limited by the bias of the authors (e.g., Brail, 2008), who have developed the tools, or the narrow focus of the study (e.g., Fehr and Peers and AECOM, 2009; Condon et al, 2009), on the analysis of Climate Change impacts at the regional level. Similarly, there has been equally little critical review of workshop or charrette-like practices, Shipley (2000, 2004). Helling (1998) and Kaza (2006) are notable exceptions. Thus, there is a need for a broader evaluation of the use of these analytical tools.

1. **List of Anticipated Work Tasks**

* Conduct a literature review of regional sketch planning tools and place these tools/models within the broader context of metropolitan Visioning and Scenario-building (e.g. FHWA and EPA have been leading advocates for such approaches for the last decade) and the official drive towards Smart Growth plans and outcomes and related debates.
* Review published material on the tools themselves
* Interview tool developers and preparers of previous comparative reviewers of the tools.
* Interview agencies that have deployed these tools and their experiences in using them
* Create a framework for comparative evaluations of the most useful set of the tools, including the assumptions into their conceptual frameworks and a set of evaluation criteria including the operational implementation of the tools in workshop settings and the nature of public interaction, discourse and outcomes
* Prepare case studies of the implementation of these tools representing a range of contexts, size and regional development conditions. These case studies should include resource requirements including system hardware and software needs, implementation and ongoing costs, timeframes, and required staffing needs, data and data maintenance and other practical considerations.
* Develop recommendations for how to apply such tools, or how to modify them, for what kinds of projects and problems (and how to link them to other tools and models) and the need for the development of other such tools in the future.

1. **Estimate of Funds Needed:**$60,000
2. **Estimate of Time Needed to Complete the Research:** 1 year including preparation and review of final report
3. **Name, Affiliation and Contact Information of Submitter(s)**

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1. **Date of Submittal**: March 30, 2012

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