

DCHCMPO Statement of Work (SOW) for SHRP2 - C16 : Evaluating the Effect of Smart Growth on Travel Demand

1 Project Management Plan and Partnership Roles

The management plan task identifies the necessary and anticipated steps and processes required to complete the SmartGAP implementation project. This will include a list of project participants, a project schedule for each of the tasks and corresponding deliverables, and details on data maintenance and file management. The plan shall also identify how the DCHCMPO intends to manage all aspects of the project, including quality assurance and quality control, and reports on the status of the project budget, work effort progress, and schedule

The Durham-Chapel-Carrboro Metropolitan Planning Organization (DCHC MPO) will partner with the Capital Area Metropolitan Planning Organization (CAMPO), North Carolina Department of Transportation (NCDOT), RSG Inc. and North Carolina State University (NC SU) in implementing SmartGap Planning Tool for the Triangle Region in North Carolina.

- 1.1 RSG (the consultant) will be responsible for the implementation design, refining the Planning and Policy Assessment Tool for the two MPO regions if necessary, and training the agency staff.
- 1.2 DCHCMO, CAMPO and NCDOT will be responsible for data collection and SmartGap input activities (population and employment); using the Triangle Community Viz to create Place Types and location categories; and testing scenarios.
- 1.3 North Carolina State University will undertake tasks associated with the Travel Demand Model.

2 Stakeholders' Involvement

The implementation SmartGAP model in the Triangle will be accomplished through involvement of stakeholders' groups such local land-use planners, transportation practitioners, regional modeling technical and executive committees, regional air quality group, the policy boards of the two MPOs, etc. This 2045 transportation plan development committee will also be actively be involved in the implementation of SmartGAP.

3 Data Inventory and Developing Model Input data

The DCHCMPO and the aforementioned partners will assemble model input data required for the SmartGAP model and the regional Community Viz scenario planning model. Data needed for the SmartGAP implementation include population and employment by thirteen place types. The Triangle region has a CommunityViz model for base and forecast periods that can be used to develop a relationship to the thirteen place types needed for the Planning and Policy Assessment Tool.

List of data sources are summarized as follows:

- DCHCMPO and CAMPO

- Community Viz model
- Regional long range transportation plan
- InfoUSA/County Business Patterns
- Local Planning Departments
- Institute of Transportation and Education (ITRE)
- Triangle –J Council of Government
- North Carolina Department of Transportation (NCDOT)
- Triangle Transit Authority
- Research Triangle Part SmartCommute

4. Model Setup and Software Installation

The MPO working with consultant will install the Open Source (R) software as well as the SmartGAP model. This task will include coordination with IT regarding any potential network security issues and addressing external data sharing and FTP.

5. Connection/Interface/Linkage to the Triangle Regional Model

This task will entail building and interface and linkages the triangle regional model and the SmartGAP model. This connect will allow for streamlined and smooth exchange of data input and output between the models at three levels, i.e. regional, MPO and county levels.

6. Development and Endorsement of Scenarios and Policies to be Tested

Through the 2014 MTP development process, the policies and scenarios to tested will be established. The table below illustrates an example of the scenarios evaluated as part of the 2035 MTP but was unsuccessful due to lack of tool:

2035 MTP Scenarios

Transportation	Land-use Scenario			
	Baseline	Constrained	Node Focus	Corridor focus
Balanced Multimodal	*	*	*	*
Comprehensive Transportation	*		*	
Highway intensive	*	*		*
Transit Intensive	*		*	*
ITS/System preservation	*	*	*	*

7. Adjustments As Needed

Perform adjustments as need be.

8. Running SmartGAP Model and Testing Scenarios/Policies

All the necessary steps in executing SmartGap model will be performed at the regional, MPO and county levels, including running the model and testing scenarios and policies. This will also involve quality checking of the results for reasonableness.

9. Generation and Evaluation Performance Measures (metrics)

This task will involve generating and evaluating performance metrics from the SmartGAP model. Essentially, evaluation of the following broad performance metrics from the model; direct travel, environmental and energy, economic and financial, community and location. Report containing the results of performance metric evaluation will be generated at the regional, MPO and county levels. The comparison of the reported results at different geographical levels will be conducted to see if there is any inconsistency. If there is an inconsistency, an evaluation will be conducted to select a reasonable geographical level for reporting or to develop a posted-processing method. Also, outcome and measures for tracking progress will be performed as well. Detail measures and factors will be developed in coordination with FHWA.

10. Documentation and Experience Sharing

Essentially, the task will entail documentation, including but not limited to the following: lessons learned and recommendations for future refinements, how the tool could serve as a decision support tool for evaluating and analyzing different transportation and land -use scenarios/policies in the MTP, TIP prioritization; and preparing peer exchange opportunities. The MPO staff members will present the project findings in the statewide and national conferences in order to prompt the SmartGAP tool.

Schedule and Cost Estimate:

The estimated cost of the project is as follows:

DCHCMPO Statement of Work for SHRP2 C16			
Task #	Deliverable/Activity	Completion Date (in weeks)	Estimated Cost
1	Prepare project management plan. Plan will highlight partners roles and responsibilities, project management and outreach process. Deliverable will be a project management memorandum that will be completed within two (2) weeks of receiving a Notice to Proceed	2	\$500
2	Stakeholders' involvement: Deliverable is memorandum that outline the role and involvement of regional transportation practitioners'. Local land-use/economic development/health/environmental planners and policy board	4	\$1,000
3	Data inventory and development of model input data:	8	\$10,000
4	Model set up/Software installation (including Open Sour "R" software and SmartGAP model). This task will including coordination with IT to sort out any potential network security issues.	2	\$2,000
5	Connection to the Triangle Regional Model: building a linkage or interface between the regional model and the SmartGAP mode	4	\$1,500
6	Development and endorsement of 2045 Regional Transportation Plan scenarios to be tested	8	\$5,000
7	Running the Smart GAP Model and testing of Scenarios/Policies	8	\$8,000
8	Adjustment and calibration as needed: to test the reasonableness of the modules.	8	\$8,000
9	Evaluation of performance metrics from the model (direct travel, environmental and energy, economic and financial, community and location): Report containing the results of performance metric evaluation will be generated. Also, outcome and measures for tracking progress will be performed as well. Detail measures and factors will be developed in coordination with FHWA.	4	\$5,000
10	Documentation: lessons learned and recommendations for future refinements, how the tool could serve as a decision support tool for evaluating and analyzing different transportation and land -use scenarios/policies in the MTP, TIP prioritization; and preparing peer exchange opportunities, conference presentations.	4	\$9,000
	Total weeks	52	
Total Estimated Cost			\$50,000
Total SHRP2 Award			\$50,000

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