

**SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION**

**RESOLUTION 1010-33: Approving Consultant Selection for the 2040 Demographic Forecasts**

**WHEREAS, the South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) designated under Federal law for the southern region of New Jersey including Atlantic, Cape May, Cumberland, and Salem Counties; and**

**WHEREAS, the Fiscal Year 2011-2012 SJTPO Unified Planning Work Program includes Federal Highway Administration planning funds for this project; and**

**WHEREAS, the Selection Committee recommends The Center for Regional & Business Research at the Atlantic Cape Community College.**

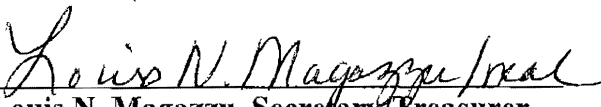
**NOW THEREFORE BE IT RESOLVED, that the Policy Board of the South Jersey Transportation Planning Organization hereby approves the above selection for the 2040 Demographic Forecast , with a maximum fee of \$49,544; and**

**BE IT FURTHER RESOLVED, that the Policy Board authorizes the Executive Director to execute scope of work and cost modifications to the original contract amount, provided that funding is available and such modifications have been approved by the NJDOT and Project Sponsor; and**

**BE IT FURTHER RESOLVED, that the Policy Board requests that the South Jersey Transportation Authority execute the appropriate contractual arrangements with the consultant on behalf of the SJTPO.**

**Certification**

**I hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Policy Board of the South Jersey Transportation Planning Organization at its meeting of October 25, 2010.**

  
**Louis N. Magazzu, Secretary/Treasurer**

## PROPOSAL FOR:

### SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

### YEAR 2040 DEMOGRAPHIC FORECASTS

#### I. Technical Proposal

##### *Technical Approach*

##### PART A: Data Collection Component

The effort, tasks and products required to complete the project are detailed below:

- Data Collection: Core Data Requirements

Long-term forecasts are risky at best and normally depend upon a set of assumptions about the performance of the state, regional and national economies. While short-term trends can be based on moving averages or shares of local activity, projections through 2040 need to be part and parcel of larger modeling efforts. Therefore, in order to provide accurate and defensible growth forecasts for the four-county SJTPO region, a **consensus forecasting method** will be used. To accomplish this, independent, county-level forecasts of the main demographic variables will be obtained from: the New Jersey Department of Labor; Moody's Economics ([http://www.economy.com/home/products/service\\_overview.asp?selVal=3&service=2&src=im-interested-in-uscounties](http://www.economy.com/home/products/service_overview.asp?selVal=3&service=2&src=im-interested-in-uscounties)); and, Woods and Poole Economics (<http://www.woodsandpoole.com/main.php?cat=state>). A consensus mid-range forecast will be established with a description of the rationale.

The Core Data Requirements will be developed from these data sets and the available historical trends from the 1990 and 2000 Census data as well as the annual American Community Survey files. Historical data is available at the county and municipal levels. The SJTPO regional level data will be the composite of the four component counties. The required historical information not contained in these reports for housing starts is available from the NJ Department of Labor's Data Center.

The employment and population data will be supplemented by information on commuting patterns and vehicle ownership contained in the U.S. Census Transportation Planning Package and the American Community Survey where available.

- Data Collection: Summer Demographics

The data required for both Summer Weekday (*SWD*) and Summer Weekend (*SWE*) is not directly available from other sources. While the definitions of visitors and population generally differ, there are some methodologies that can be followed to derive both. For instance, the Uniform Crime Reports (<http://www.njsp.org/info/ucr2006/pdf/2006-sect-8.pdf>) for New Jersey use a methodology prescribed in P.L. 1998, c. 50 to estimate a mean seasonal population for resort towns in coastal communities. This uses the vacancy rate for housing units and does not include motels, campgrounds, etc. On the other hand, the Cape May County visitor estimates referenced in the RFP do include day-trippers, campgrounds, motels, etc. The *CRBR* has estimated peak-summer and weekday summer populations for Atlantic County in the past.

This proposal recommends using a combined methodology that uses a percentage of occupied housing units for weekdays and a higher percentage for weekends to approximate populations by municipality for the historical years. Visitors will be estimated using the traffic counts to be reported by counties this summer. An off-season baseline will be established, and the seasonal numbers will be derived by changes in the traffic counts. These will yield county-level estimates. Municipal shares will be established based on both vacant housing units and number of hotels/motels from the latest available economic census.

Seasonal employment data exists at the municipal level ([http://lwd.dol.state.nj.us/labor/lpa/employ/qcew/qcew\\_index.html](http://lwd.dol.state.nj.us/labor/lpa/employ/qcew/qcew_index.html)) by place of employment and NAICS industry. This data will be used to set-up a baseline for the four employment components required.

- Data Collection: Comparison of SJTPO Regional Data to New Jersey Data

Because all of the sources to be used in the consensus forecast also provide state-level projections, this comparison will be straightforward.

## **PART A: Forecasting Component**

- Forecasting: Preparing Forecasts

From the data collected as described above, many of the main county-level demographic and employment variables will be provided by the consensus forecast providers. These will form the basis for forecasting the remaining variables. This will be done in two steps:

1. The main demographic and employment variables will be forecast at the municipal level. This will be done by examining the trend in the municipal share of the county variable from 1990 to the last historical data point.
2. Variables not projected by the outside services (e.g. housing unit vacancy rates) will be projected using either the same method as above, a moving average of the

historical shares, or by calculating from the available information (e.g., vacancy rates can be deduced from number of units and people per household in the non-seasonal population).

Forecasts for the summer employments, populations and visitors will be done by keeping the estimates between non-seasonal and seasonal populations in a consistent relationship over time.

- Forecasting: Preparing a Technical Report

The technical report will contain all data sources and methodologies. An overall approach will be described. In addition, a variable by variable matrix will be developed so that each forecasted variable can be duplicated from the source data.

- Forecasting: 2010 Census Spreadsheet

A Microsoft EXCEL worksheet will be developed which will automatically calculate projected values based on replacing the projected 2010 data with Census data. The spreadsheet will be constructed based on growth rates from the 2010 baseline and all formulas will be consistent with the matrix of calculations described above.

In addition, **all tables and maps for reporting purposes will be constructed with links to the revised baseline and projections** so that the final report can be easily revised when the 2010 Census data is available.

## **PART A: Reporting Component**

- Reporting: Profile Report

Using tables, maps (described in the following section) and other visuals as well as a summary of the methods and findings, a 6-8 page profile report will be developed and provided in a digital format for easy viewing, printing, and linking to a website. The report will have sections by county and the SJTPO Region that are self-explanatory and can be printed separately.

- Reporting: Presentations

A presentation of the results of the study will be prepared that can be used by TAC, Board or other parties. It will contain a Powerpoint presentation, four poster-size presentation boards (for the consultant presentation and digital file for others to use), and downloadable files of the Profile Report.

The entire team will be available for the presentation meetings to the TAC and the SJTPO Policy Board.

## **PART A: Mapping Component**

- Mapping: Geospatial Files

The numerous shapefiles will be developed using a base map agreed upon with the SJTPO staff. Using ArcGis 9.3.1, each shapefile will be accompanied with the source data in EXCEL format. The maps will be formatted from a template that can be used for presentation graphics if desired.

The geospatial maps will be catalogued and placed in a file structure that can easily be searched for a particular map. An index will be provided.

- Mapping: Visualization Techniques

Due to the large number of variables to be forecast, major trends will be identified in meetings with SJTPO staff for further illustration. Again, templates for charts, graphs and maps will be developed so that source data can be linked to them for display.

## **PART A: Scenario Building Component**

- Scenarios: Building and Reporting

Recognizing that many of the techniques referenced on the FHWA website are beyond the budget for this proposal, the preferred method for this project would be focus groups with SJTPO staff members, county planners, and appropriate other agencies. These would be preceded by some general assumptions for low, medium, and high growth scenarios to be tested in the focus group meetings.

However, recognizing that the SJTPO would like to utilize scenario planning for its next RTP, a consultation on methods would be beneficial so that there would be some consistency and learning from one this project to the later one.

Once again, the use of templates for visualization techniques will allow the scenarios to be presented easily given the source data files.

## **PART B: Disaggregation to the TAZ and 2000 Census Tract Levels**

The disaggregation of data to the census tract level will be performed much the same as the municipal data is constructed from the county-level data. Using shares from historical Census data, each tract in the four-county region will be assigned the data variables required.

The census tract data will be consistent with the municipal totals, which are consistent with the county totals.

### ***Project Schedule***

The following schedule assumes a three-month work schedule for Part A with completion by September 30, 2010 and a nine-month work schedule for Part B ending on March 31, 2011. Meetings with SJTPO staff are underlined for travel budgeting purposes to be shown on the cost proposal.

- Day 0: Notice to Proceed. Begin to collect third-party projections, data.
- Day 15: Meet with SJTPO staff to review project objectives, product responsibilities, and project outputs. Develop list of agencies/people for scenario development consultation.
- Day 30: Submit county-level data to SJTPO staff to review basis for consensus forecast and assumptions. These should be shared with TAC members for review and input.
- Day 45: Meet with SJTPO staff to finalize scenario development procedure and recommended participants for focus groups. Deliver templates for tables, graphs and maps for review.
- Day 60: Deliver mid-growth projections by municipality in table form. Review draft form of profile report.
- Day 75: Have focus groups completed and high/low estimates completed for review. Begin development of presentation package and draft report.
- Day 82: Review staff comments on draft report. Meet with staff to develop final content for display board, maps, and profile report. Review presentation components. Present spreadsheet and demonstrate.
- Day 90: Deliver all data, text, display boards, and CDs by September 30, 2010. Schedule presentations.
- Day 105: Receive TAZs from SJTPO staff.
- Day 120: Meet with SJTPO to confirm exact census tracts for disaggregation.
- Day 210: Submit tables with disaggregated data for review. Review final report form.
- Day 270: Submit all deliverables to SJTPO.

## **APPENDIX I**

### **Technical Proposal and Cost Proposal (see attached).**

This document serves as an amendment to the original proposal, submitted by CRBR in June 2010. The details of that proposal still apply except where contradicted by this amendment, which shall override details in the original proposal. The details of this amendment are based on the original RFP, which reflect the needs of the SJTPO, the Proposal

#### **Background:**

The SJTPO will be updating its demographic projections for use in the SJTPO Travel Demand Model and the SJTPO Regional Transportation Plan 2040. This study will include forecasts in each county. The technical approach is to include at least these four steps: data assembly, forecast, and scenario building, and reporting.

These projections will utilize the latest available data from the US Census including CTPP and the American Community Survey, the New Jersey Department of Labor, and any other sources that are relevant to constructing the most educated projection possible.

Employment and population will be supplemented with information on commuting patterns and vehicle ownership. Forecast is to be extended to the year 2040 and will include figures for five year intervals. County figures will be disaggregated to the TAZ levels that are developed by the US Census. The forecast is to incorporate expected differences for population and employment growth or stagnation for townships in the region (using techniques such as moving average, etc.); these techniques are meant to enhance the scenario building effort. All assumptions and models used are to be clearly delineated so that projections can be easily duplicated

The scenario building process will produce a range of possible growth scenarios: upper, lower, and mid-range, with mid-range being the study's recommended benchmark. The projections will be accompanied by a descriptive rationale. A regional profile report will be constructed that will be a standalone document that includes historical trends and projections, and an analysis of daytime populations near employment zones.

#### **Updates to the Proposal Include, As Follows:**

The Disaggregation of Demographic Data shall not be done in a manner that simply distributes the projected population based on the current shares of population. Rather, the method for projection and disaggregation shall include the following:

**Employment** projection will be done after researching the past, current, and projected employment growth rates at the county level and will be formed from numerous data sets, which may include sources such as the economic census and unemployment tax data, among others.

**Population and Households** will be projected for three time categories: Non-Summer/Year-Round (Census-Like), Summer Weekday, and Summer Weekend. In addition Summer Weekday and Summer Weekend shall also include visitors.

The current and projected basic land uses will also be evaluated at the county level after consulting with local experts about the desired amount and timetable of residential build-out. The consultant will use

county projections based on the above data to disaggregate the projected county population, employment, and households to the municipal and Census Tract levels. The Census Tract data will then be used for translation to the TAZ level.

Summer Weekday (SWD) and Summer Week End (SWE) represents an adjustment to base data based on available data: Traffic Counts, Real Estate Data, Retail Data, Hotel Data, Crime Stats/Methodologies, Tax Data, Chambers of Commerce Data, Etc. Note: Identifying visitors is important, not just residents. Visitors increase bike/ped traffic.

Historic numbers for all data will be reported at 10 year increments, which will include 1990 and 2000. Projected data from 2010 (base year) to 2040 (horizon year) will be reported in 5 year increments (2010, 2015, 2020, 2025, 2030, 2035, and 2040).

The consultant will provide an automated projection worksheet, which will use the projected 2010 base year data as input and will produce projections as output, as follows:

- All population, household, and employment data projections
- At seasonal levels (Non-Summer/Year-Round (Census-Like), Summer Weekday, and Summer Weekend)
- Including years 2015, 2020, 2025, 2030, 2035, and 2040
- At the County level, as well as disaggregated to the Municipal and Census Tract/TAZ level.
- For a detailed list, which specifies, at a minimum, which data must be provided by year, level of disaggregation, and time of year, see **Required Data**
- **The automated projection worksheet must include no less than ALL required projection data.**

The result will be that when the new 2010 Census data is available, the worksheet will automatically generate the above listed projections when this Census data replaces the projected 2010 data.

**Deliverable Schedule:**

<b>Date</b>	<b>Provider</b>	<b>Deliverable</b>
At Onset	SJTPO	TAZ 1990 Layer and Methodologies
At Onset	SJTPO	TAC, Etc. Names, Contact Info
12/1/2010	SJTPO	TAZ 2010 Layer and Methodologies
<b>4/29/2011</b>	<b>CRBR</b>	<b>All Projected Data at the <u>R</u>egion, <u>C</u>ounty, and <u>M</u>unicipal Levels Due (Draft)</b>
5/9/2011	CRBR	Present R, C, M Data to TAC
5/23/2011	CRBR	Be Available to Present R, C, M Data to Policy Board
June 2011	CRBR	Incorporate TAC, Policy Board, SJTPO Staff Edits
<b>6/30/2011</b>	<b>CRBR</b>	<b>ALL Deliverables (Listed Below and in RFP) Due</b>
7/11/2011	CRBR	Be Available to Present Data to TAC
7/25/2011	CRBR	Be Available to Present Data to Policy Board
After	CRBR	Be Available for Minor, Final Edits to Report, Data, Etc



**Required Data:**

	Non-Summer/Year-Round (Census-Like)			Summer Weekday (SWD) and Summer Week End (SWE)		
	Historic (1990, 2000)	Current (2000)	Future (2015, 2020, 2025, 2030, 2035, 2040)	Historic (1990, 2000)	Current (2000)	Future (2015, 2020, 2025, 2030, 2035, 2040)
<b>Total Employment</b>	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Industrial Employment	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Retail Employment	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Office Employment	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Other Employment	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Unemployment rate	RCM	RCM	RCM			
<b>Total Population</b>	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Population by five-year cohort	RCM	RCM	RCM			
Population, 65+	RCM	RCMD	RCMD*			
Group-quarter population	RCM	RCM	RCM			
Total Household population	RCM	RCM	RCM			
Single-family	RCM	RCM	RCM			
Multi-family	RCM	RCM	RCM			
Zero-Vehicle Household Population	RCM	RCM	RCM			
Median Personal Income	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Population, One Race	RCM	RCMD	RCMD*			
White	RCM	RCMD	RCMD*			
Total of "Population, One Race" minus "White"	RCM	RCMD	RCMD*			
Black or African American	RCM	RCM	RCM			
American Indian & Alaska Native	RCM	RCM	RCM			
Asian	RCM	RCM	RCM			
Native Hawaiian & Other Pac. Islander	RCM	RCM	RCM			
Some other race	RCM	RCM	RCM			
Population, Two or more races	RCM	RCM	RCM			
Population, Hispanic or Latino (of any race)	RCM	RCMD	RCMD*			
Limited English Proficient (LEP) Population	RCM	RCMD	RCMD*			
<b>Total Households</b>	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Single-family Households	RCM	RCM	RCM			
Multi-family Households	RCM	RCM	RCM			
Median Household Income	RCMD	RCMD	RCMD	RCMD	RCMD	RCMD
Household size	RCM	RCM	RCM			
Single-family	RCM	RCM	RCM			
Multi-family	RCM	RCM	RCM			
Low-Income Households	RCM	RCMD	RCMD*			
Zero-Vehicle Households	RCM	RCMD	RCMD*			
<b>Total Housing Units</b>	RCM	RCM	RCM			
Occupied Housing Units	RCM	RCM	RCM			
Owner-Occupied Units	RCM	RCM	RCM			
Renter-Occupied	RCM	RCM	RCM			
Vacant Housing Units	RCM	RCM	RCM			
Summer Season	RCM	RCM	RCM			
Off Season	RCM	RCM	RCM			
Housing starts	RCM	RCM	RCM			

R = SJTPO Region

C = County

M = Municipal

D = Dissaggregate to TAZ/Census Tract Level

D\* = 2040 Only, for future disaggregation to the Census Tract Level

**COST PROPOSAL FOR:**

**SOUTH JERSEY TRANSPORTATION PLANNING  
ORGANIZATION**

**2040 DEMOGRAPHIC FORECASTS**

<b><u>Cost Component:</u></b>	<b><u>Rate:</u></b>	<b><u>Cost:</u></b>
<b><u>Travel:</u></b>	40 miles/trip/person @ \$.50/mile	
- Initial meeting (3 people)		\$60.00
- Scenario development meeting (2 people)		\$40.00
- Scenario focus groups (2 trips, 2 people)		\$80.00
- Presentation meeting, TAC (three people)		\$60.00
- Presentation meeting, SJTPO Policy Bd. (3 people)		\$60.00
- Draft report meeting (3 people)		\$60.00
- TAZ, Part B meeting (2 people)		\$40.00
	<b>Sub-total:</b>	<b>\$400.00</b>
<b><u>Materials:</u></b>		
Report printing		
- One draft and one final report, bound/color		\$50.00
Display Boards (4)	\$50/board, printing and backing	\$200.00
	<b>Sub-total:</b>	<b>\$250.30</b>
<b><u>External Data Sources:</u></b>		
Moody's Economics (4 counties)		\$940.00
	<b>Sub-total:</b>	<b>\$940.00</b>

**Labor:**

Data collection

- R. Perniciaro (30 hrs.)	\$100/hour	\$3,000.00
- M. Holmdal (2 hrs.)	\$75/hour	\$150.00
- L. Olivieri (4 hrs.)	\$75/hour	\$300.00
	<b>Task Total:</b>	<b>\$3,450.00</b>

Forecasting

- R. Perniciaro (50 hrs.)	\$100/hour	\$5,000.00
- M. Holmdal (2 hrs.)	\$75/hour	\$150.00
	<b>Task Total:</b>	<b>\$5,150.00</b>

Reporting

- R. Perniciaro (24 hrs.)	\$100/hour	\$2,400.00
- M. Holmdal (50 hrs.)	\$75/hour	\$3,750.00
- L. Olivieri (6 hrs.)	\$75/hour	\$450.00
	<b>Task Total:</b>	<b>\$6,600.00</b>

Mapping

- R. Perniciaro (30 hrs.)	\$100/hour	\$3,000.00
- M. Holmdal (20 hrs.)	\$75/hour	\$1,500.00
- L. Olivieri (46 hrs.)	\$75/hour	\$3,450.00
	<b>Task Total:</b>	<b>\$7,950.00</b>

Scenario Building

- R. Perniciaro (25 hrs.)	\$100/hour	\$2,500.00
- M. Holmdal (10 hrs.)	\$75/hour	\$750.00
- L. Olivieri (4 hrs.)	\$75/hour	\$300.00
	<b>Task Total:</b>	<b>\$3,550.00</b>

Part B: Disaggregation

- R. Perniciaro (36 hrs.)	\$100/hour	\$3,600.00
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- M. Holmdal (6 hrs.)	\$75/hour	\$450.00
- L. Olivieri (8 hrs.)	\$75/hour	\$600.00
<b>Task Total:</b>		<b>\$4,650.00</b>

Meetings (2 hours/meeting)

- R. Perniciaro (16 hrs.)	\$100/hour	\$1,600.00
- M. Holmdal (10 hrs.)	\$75/hour	\$750.00
- L. Olivieri (12 hrs.)	\$75/hour	\$900.00
<b>Task Total:</b>		<b>\$3,250.00</b>

**Overhead:**

- R. Perniciaro (211 hrs.)	\$42/hour	<b>\$8,850.00</b>
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**Labor Sub-total: \$43,450**

**Project Total Minus Overhead: \$45,040**  
**Project Total With 10% Overhead: \$49,544**