The South Florida Resident Job Linkage (SFRJL) Reporting Tool

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Questions from Transportation Executives:

- How many people live in Fort Lauderdale but work in Miami?
- How many people drive to work and how many people use transit?
- How soon can you give me the answers?
To Get the Answers?

- OnTheMap Online Tool
- ACS/CTPP Online Tool

- Both have robust functionalities and national perspective
- South Florida needs a quick one-stop tool for less sophisticated users
South Florida Users Needs:

- Regional perspective/Regionalized datasets
- **Agile**: Looks simple and very easy to use: make executives knowledgeable and like to find the answers themselves
- **Versatile**, but not omnipotence: not to replicate the functionalities of OnTheMap and ACS/CTPP online tools
Four Simple Selections to Answer the Question of “How many people live in Fort Lauderdale but work in Miami?”

Step 1. Select a LEHD Data Year
Step 2. Select a Report Type
Step 3. Select an Origin
Step 4. Select a Destination
Click for Report
Selection Sets (1)

Years of data

Report Types

Geographic Areas (see next slide)
Selection Sets (2)

“From City”

“To City”
The Answer of “Number of people living in Fort Lauderdale and earning paychecks in Miami” is:

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of jobs</th>
<th>Total number of workers age 29 or younger (SA01)</th>
<th>Total number of workers age 30 to 54 (SA02)</th>
<th>Total number of workers age 55 or older (SA03)</th>
<th>Total number of jobs with earnings $1250/month to $3333 (SE02)</th>
<th>Total number of jobs with earnings $3333 (SE03)</th>
<th>Total number of jobs in Goods Producing industry sectors (SI01)</th>
<th>Total number of jobs in Trade, Transportation, and Utilities industry sectors (SI02)</th>
<th>Total number of jobs in All Other services industry sectors (SI03)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2,092</td>
<td>361</td>
<td>1,322</td>
<td>409</td>
<td>447</td>
<td>547</td>
<td>1,098</td>
<td>57</td>
<td>611</td>
</tr>
</tbody>
</table>

Answer: 2,092
To report the top 10 cities where people coming from and working in Miami

- Select report type: “All Cities to A City”
- Sort the output in descending order
- Export to Excel (or other) formats
- Delete all but the top 10 cities

![Image of report query]

Exporting the report

<table>
<thead>
<tr>
<th>From City</th>
<th>Year</th>
<th>Total number of jobs</th>
<th># of jobs of workers age 29 or younger</th>
<th># of jobs of workers age 30 to 54</th>
<th># of jobs of workers age 55 or older</th>
<th># of jobs with earnings &lt;= $1250/month</th>
<th># of jobs with earnings $1251/month to $3333</th>
<th># of jobs with earnings &gt; $3333</th>
<th># of jobs in Goods Producing industry sectors</th>
<th># of jobs in Trade, Transportation, and Utilities industry sectors</th>
<th># of jobs in All Other services industry sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miami city, Miami-Dade</td>
<td>2011</td>
<td>44343</td>
<td>8,783</td>
<td>25,955</td>
<td>9,605</td>
<td>10,751</td>
<td>18,135</td>
<td>15,457</td>
<td>1,217</td>
<td>7,066</td>
<td>30,060</td>
</tr>
<tr>
<td>Others</td>
<td>2011</td>
<td>25639</td>
<td>4,941</td>
<td>15,138</td>
<td>5,560</td>
<td>5,627</td>
<td>8,139</td>
<td>11,873</td>
<td>699</td>
<td>4,811</td>
<td>20,129</td>
</tr>
<tr>
<td>Hialeah city, Miami-Dade</td>
<td>2011</td>
<td>12187</td>
<td>2,486</td>
<td>6,970</td>
<td>2,731</td>
<td>3,132</td>
<td>5,634</td>
<td>3,421</td>
<td>385</td>
<td>1,908</td>
<td>9,894</td>
</tr>
<tr>
<td>Miami Gardens city, Miami-Dade</td>
<td>2011</td>
<td>10158</td>
<td>1,392</td>
<td>6,578</td>
<td>2,188</td>
<td>1,728</td>
<td>3,659</td>
<td>4,771</td>
<td>113</td>
<td>818</td>
<td>9,227</td>
</tr>
<tr>
<td>Miramar city, Broward</td>
<td>2011</td>
<td>7488</td>
<td>923</td>
<td>5,170</td>
<td>1,395</td>
<td>854</td>
<td>1,800</td>
<td>4,834</td>
<td>92</td>
<td>1,047</td>
<td>6,349</td>
</tr>
</tbody>
</table>
Question:

“Is there a market for running express buses from NW Broward County to downtown Miami?”
(35+ miles apart)
User Defined Job Area (Downtown Miami)
Reporting O/D with User Defined Areas
Answer to the Question: “Is there a market for running express buses from NW Broward County to downtown Miami?”

<table>
<thead>
<tr>
<th>Year</th>
<th>Total number of jobs</th>
<th>Number of jobs of workers age 29 or younger (SA01)</th>
<th>Number of jobs of workers age 30 to 54 (SA02)</th>
<th>Number of jobs of workers age 55 or older (SA03)</th>
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<th>Number of jobs with earnings $1250/month to $3333 (SE02)</th>
<th>Number of jobs with earnings &gt; $3333 (SE03)</th>
<th>Number of jobs in Goods Producing Industry sectors (SI01)</th>
<th>Number of jobs in Trade, Transportation, and Utilities Industry sectors (SI02)</th>
<th>Number of jobs in All Other services Industry sectors (SI03)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>310</td>
<td>57</td>
<td>192</td>
<td>61</td>
<td>40</td>
<td>60</td>
<td>210</td>
<td>2</td>
<td>27</td>
<td>281</td>
</tr>
</tbody>
</table>
Motivation

- Importance of Commuting Data
  - Travel demand management programs
  - Transit service planning
  - Travel demand forecasting

- Census Data Products
  - Longitudinal Employer-Household Dynamics (LEHD)
    - Years 2002 - 2011
  - Census Transportation Planning Product (CTPP) from American Community Survey (ACS)
    - Five-Year (2006-2010)
Objectives of the SFRJL Reporting Tool

- Make LEHD/CTPP Simple and Easy-to-Use
- Focus on Cities/Census Designated Places (CDP) in Seven South Florida Counties
  - Indian River, St. Lucie, Martin
    - Treasure Coast Regional Planning Model (TCRPM) Area
  - Palm Beach, Broward, Miami-Dade
    - Southeast Florida Regional Planning Model (SERPM) Area
  - Monroe
- Display Data in Tabular and Graphic Format
- Export Reports in Different Formats
- Can be used on Computers and Mobile Devices
LEHD Data Used in SFRJL

- Flow Data Only
  - Residence Place
  - Workplace
- Total Number of Jobs
  - Number of Jobs by Age Groups
    - 29 or younger; 30-54; 55 or older
  - Number of Jobs by Monthly Earning Groups
    - $1250 or less; $1250 to $3333; $3333 or more
  - Number of Jobs by Industry Sectors
    - Goods producing; Trade/Transportation/Utilities; Other Services
2006-2010 ACS/CTPP Data Used in SFRJL

- Flow Data Only
- Selected Tables
  - Means of Transportation
  - Age Groups
  - Industry Sectors
  - Race
  - Time left for work
  - Travel time to work
The SFRJL Reporting Tool Development

- Two Versions
  - PC version
    - Microsoft Silverlight
    - Fast and Stable
    - Only works on Windows PCs
  - Mobile compatible version
    - Include all PC functions
    - Accessible across platforms
    - ACS/CTPP data integrated
    - Slower
SFRJL – PC Version
http://sfrjl1.visualdatacenter.net/
User Login Interface

Accordion Interface
SFRJL – Mobile Compatible Version
(ACS/CTPP City/CDP/County Based Predefined Reports)
SFRJL – Mobile Compatible Version
ACS/CTPP Predefined Report Categories

Click to see “Bar Chart”

Multiple Reports
SFRJL – Mobile Compatible Version
ACS/CTPP Predefined Report Categories

Export to different format

Bar Chart in absolute numbers and percentages
SFRJL – Mobile Compatible Version
(ACS/CTPP User Defined Areas (TAZs))
SFRJL – Mobile Compatible Version
ACS/CTPP Modify User Defined Area (TAZs)

Two layers
Predefined Area
SFRJL – Mobile Compatible Version
ACS/CTPP Modify User Defined Area (TAZs)

Two Data Sources
Predefined Area-Based Report Types
### Means Of Transportation

<table>
<thead>
<tr>
<th>To County</th>
<th>Drove alone</th>
<th>2-person carpool</th>
<th>3+ Person Carpool</th>
<th>Bus</th>
<th>Rail</th>
<th>Bike and Ped</th>
<th>Other modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bravard</td>
<td>12,107</td>
<td>1,376</td>
<td>8.69%</td>
<td>455</td>
<td>2.87%</td>
<td>424</td>
<td>2.66%</td>
</tr>
<tr>
<td>Miami-Dade</td>
<td>574</td>
<td>95</td>
<td>4.16%</td>
<td>145</td>
<td>6.63%</td>
<td>15</td>
<td>0.66%</td>
</tr>
<tr>
<td>Monroe</td>
<td>20</td>
<td>45</td>
<td>2.29%</td>
<td>25</td>
<td>1.09%</td>
<td>15</td>
<td>0.66%</td>
</tr>
<tr>
<td>Palm Beach</td>
<td>1,969</td>
<td>145</td>
<td>7.36%</td>
<td>35</td>
<td>1.86%</td>
<td>35</td>
<td>1.86%</td>
</tr>
<tr>
<td>Others</td>
<td>53</td>
<td>35</td>
<td>1.96%</td>
<td>35</td>
<td>1.86%</td>
<td>35</td>
<td>1.86%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14,723</strong></td>
<td><strong>1,471</strong></td>
<td><strong>7.76%</strong></td>
<td><strong>650</strong></td>
<td><strong>3.59%</strong></td>
<td><strong>30</strong></td>
<td><strong>0.16%</strong></td>
</tr>
</tbody>
</table>

### Travel Time

<table>
<thead>
<tr>
<th>To County</th>
<th>Less than 5 minutes</th>
<th>5 to 14 minutes</th>
<th>15 to 19 minutes</th>
<th>20 to 29 minutes</th>
<th>30 to 44 minutes</th>
<th>45 to 59 minutes</th>
<th>60 to 74 min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bravard</td>
<td>459</td>
<td>2,89%</td>
<td>3,426</td>
<td>2,169</td>
<td>2,876</td>
<td>3,992</td>
<td>991</td>
</tr>
<tr>
<td>Miami-Dade</td>
<td>30</td>
<td>4.69%</td>
<td>45</td>
<td>45</td>
<td>45</td>
<td>30</td>
<td>65</td>
</tr>
</tbody>
</table>
SFRJL – Mobile Compatible Version
Multiple Reports and File Export

![Graph showing number of workers by time left home for work](image)

![Graph showing percent of total workers by time left home for work](image)
Highlights of the SFRJL Reporting Tool

- Integrated data sources
- Accessible across platforms
- Simple and easy user interface
- Versatile reporting functions
  - Predefined reports at city/GDP/county level
  - User defined areas and reporting
  - Reporting flows between origin(s) and destination(s)
    - One to one, one to many, many to one, and many to many
  - Can be sorted by any column in any order
  - Can be exported to multiple formats
Outcomes

- Has been used for:
  - Demand forecast model estimation, calibration, and validation
  - Transit market assessment
  - Transit Development Plan (TDP) Update
- Being used frequently
  - More than 1,300 hits since July 2013
- Saved purchases of cellphone-based O/D datasets
Questions and Comments

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Thank You!