

# ***Supplementing ACS: The LEHD Program***

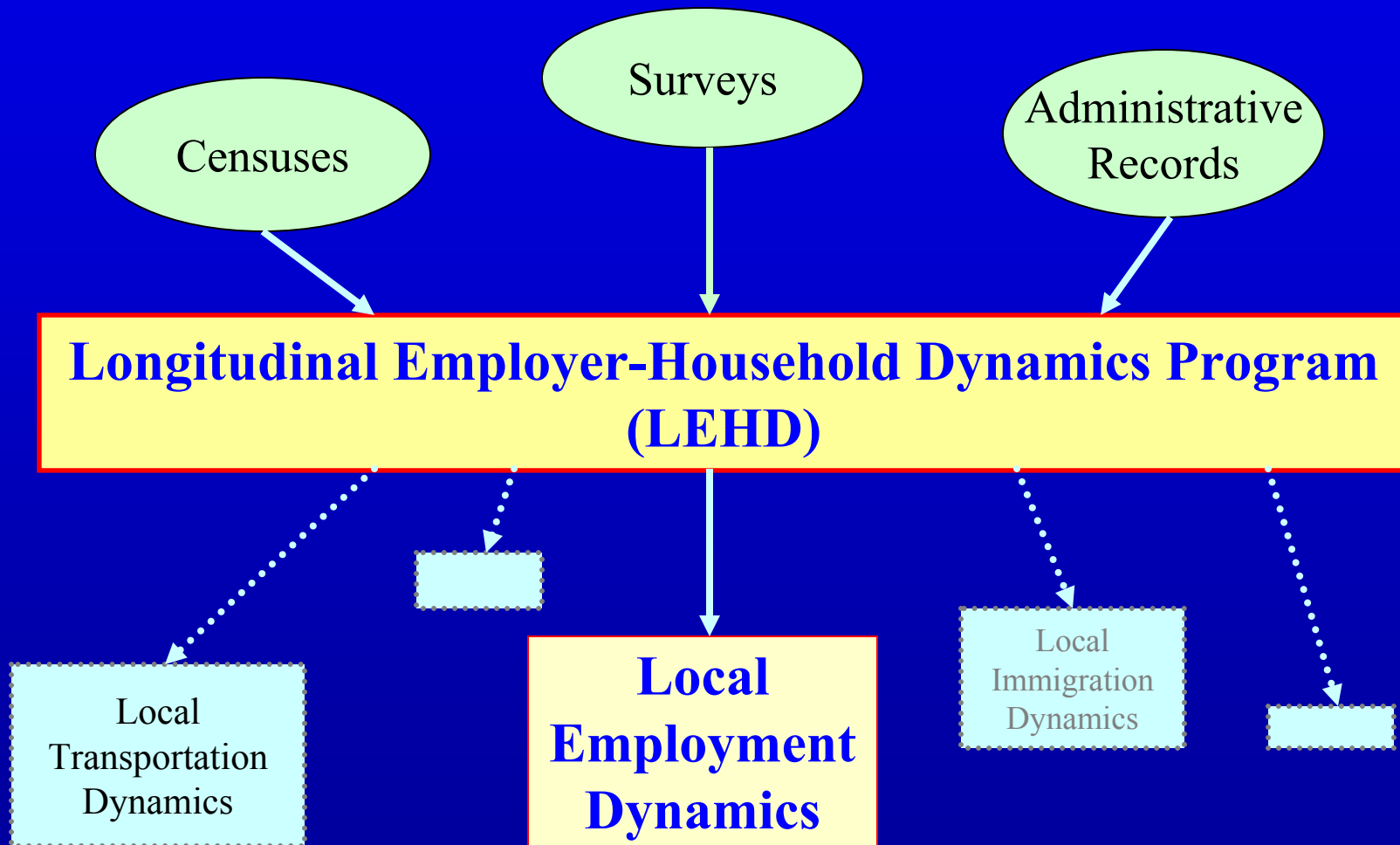
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Marc Roemer  
U.S. Census Bureau

May 12, 2005

# Overview

- ✓ Similarities and differences
- ✓ Sample enhancements
  - ✓ Geo-coding for ACS
  - ✓ Multiple job holdings
  - ✓ Mapping pilot
- ✓ How else can LEHD supplement ACS

# The LEHD Concept



# Similarities and Differences

	Long Form (CTTP)	ACS	LEHD
Frame	HHs & GQs	HHs & GQs	UI Workers/Firms
Sample rate	~ 1 in 6 Per year	~ 1 in 8 Over 5 years	~ 1 in 1 4 times a year
Release Frequency	Decennial	Annual	Quarterly
Coverage	Nationwide	Nationwide	39 states ↑
Reference Period	Week	Week	Quarter
Availability	No	Yes	Yes

# Similarities and Differences

	Long Form (CTTP)	ACS	LEHD
Primary Jobs	Yes	Yes	Yes
Other Jobs	No	No	Yes
Self-employed	Yes	Yes	To be added
Federal employment	Yes	Yes	To be added
Link to firms	No	No	Yes
Link to employ hist	No	No	Yes

# Similarities and Differences

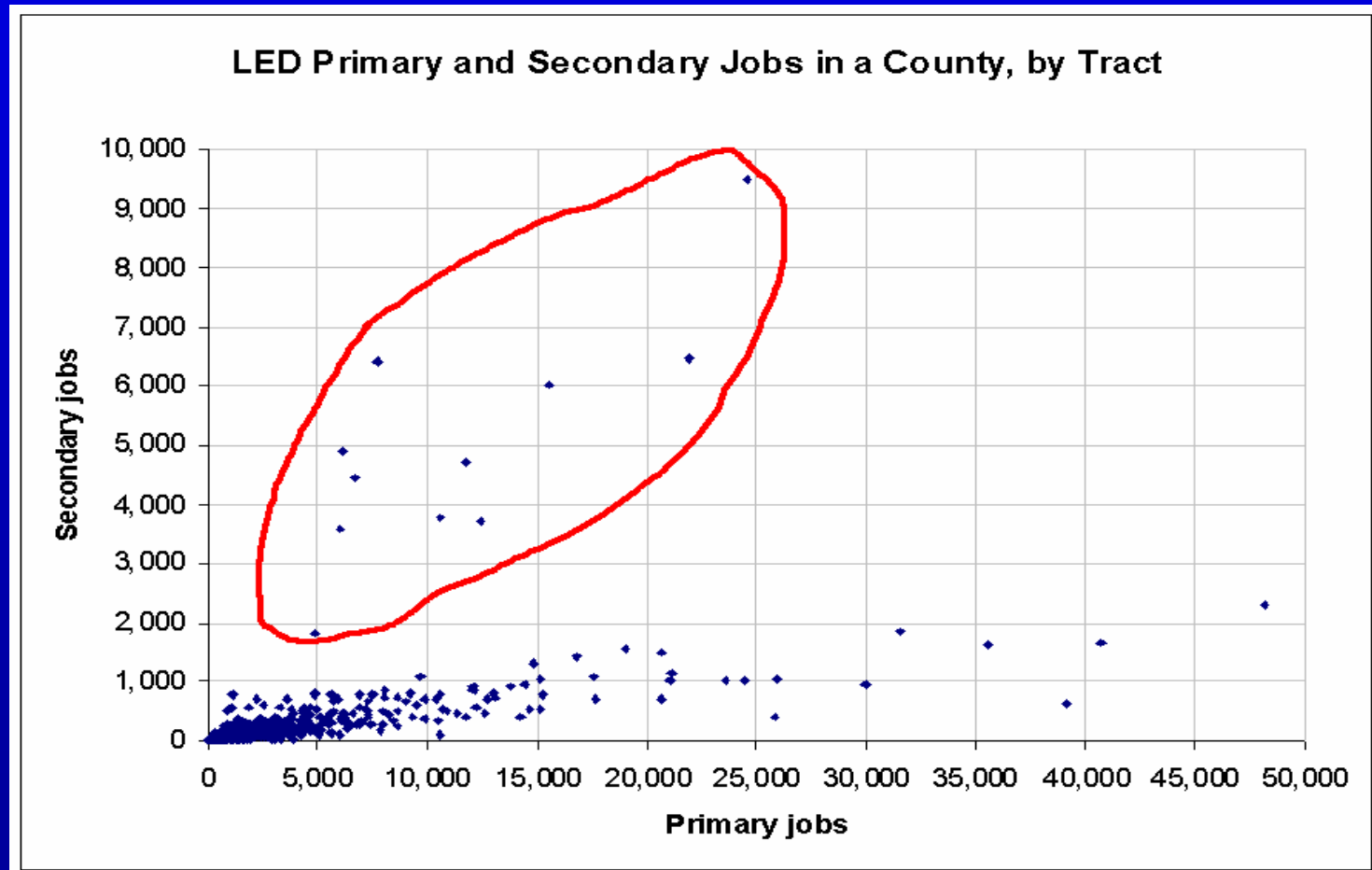
	Long Form (CTTP)	ACS	LEHD
Informal economy	Some Not ID	Some Not ID	Some Not ID
HH statistics	Yes	Yes	To be added
Commute time/mode	Yes	Yes	To be added
Tract/TAZ data avail.	Every 10 years	5 year average	Quarterly
Race/ethnicity	Yes	Yes	To be added

# Sample Enhancements with ACS

- Multiple and Single Job Holders – not readily available from ACS
- Geo-code Enhancement – already ongoing collaborative effort
- Mapping Pilot – great potential for transportation planning/analysis

# Multiple and Single Job Holders

Using LEHD data, which census tracts in a Metropolitan Statistical Area may have high second/multiple job holders?





# Geo-Code Enhancement

- Missing place of work geo-codes in ACS can be supplemented by LEHD geo-codes before going to clerical operations
- Up to 65% enhancements may be expected

# Geo-Code Enhancement

Matching rates of geo-codes for **127,000**  
single-unit employer work address  
**2001-2002, 2004 ACS and LEHD**

	Both geo-codes certain	Both geo-codes less certain
Census tracts	<b>70%</b>	<b>60%</b>
County	<b>90%</b>	<b>90%</b>

# LEHD Origin-Destination Database

## Home Block

*(U/I Wage Data)*

## Workplace Block

*(ES-202 Data)*

*# of Workers (primary job) and # of Jobs*



- Home Profile - block group

- # workers
- Worker distribution
  - by age range (3)
  - by earnings range (3)
  - by industry (20 NAICS)

- Work Profile - block group

- # establishments
- # workers
- Worker distribution
  - by age range (3)
  - by earnings range (3)
  - by industry (20 NAICS)
- Demand/growth indicators
  - Job creation/loss
  - Hires/separations
  - Earnings hires/separations

***All files have been approved by  
Census Bureau Disclosure  
Review Board***

# Potential Enhancements with ACS



- Home Profile - block group

- # workers
- Worker distribution
  - by age range (3)
  - by earnings range (3)
  - by industry (20 NAICS)

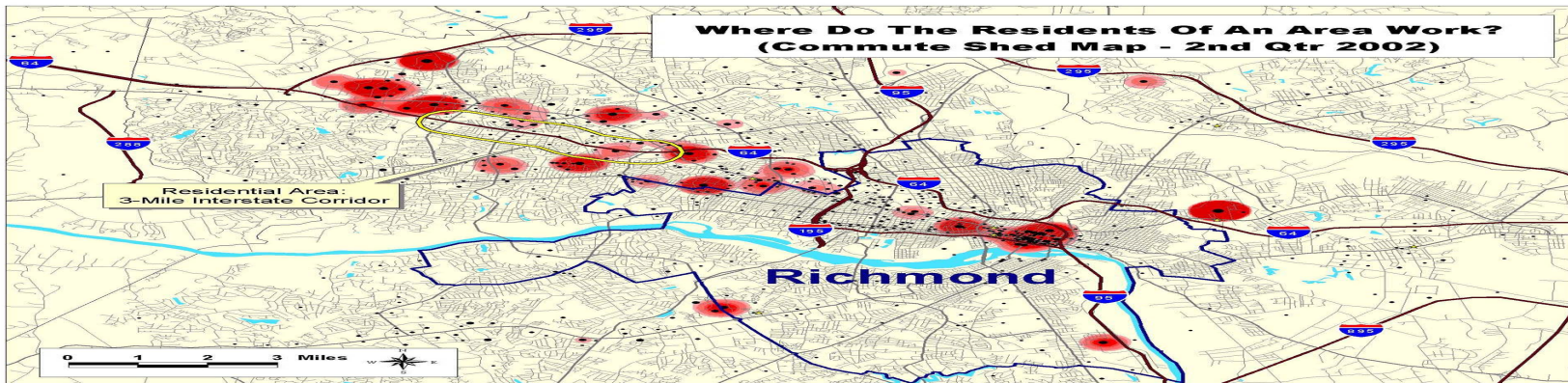
***Subject to approval by Census  
Bureau Disclosure Review  
Board***

- Work Profile - block group

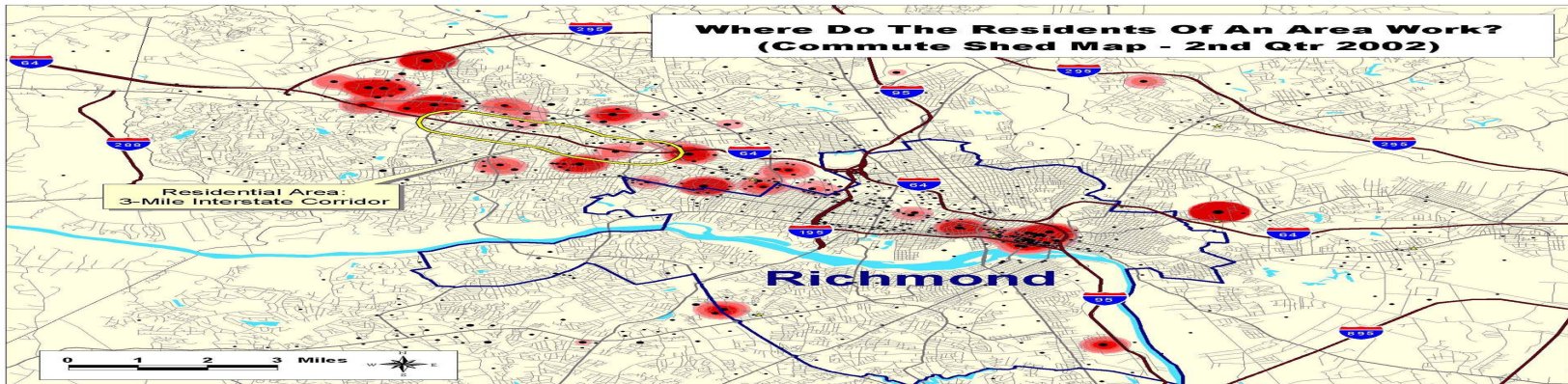
- # establishments
- # workers
- Worker distribution
  - by age range (3)
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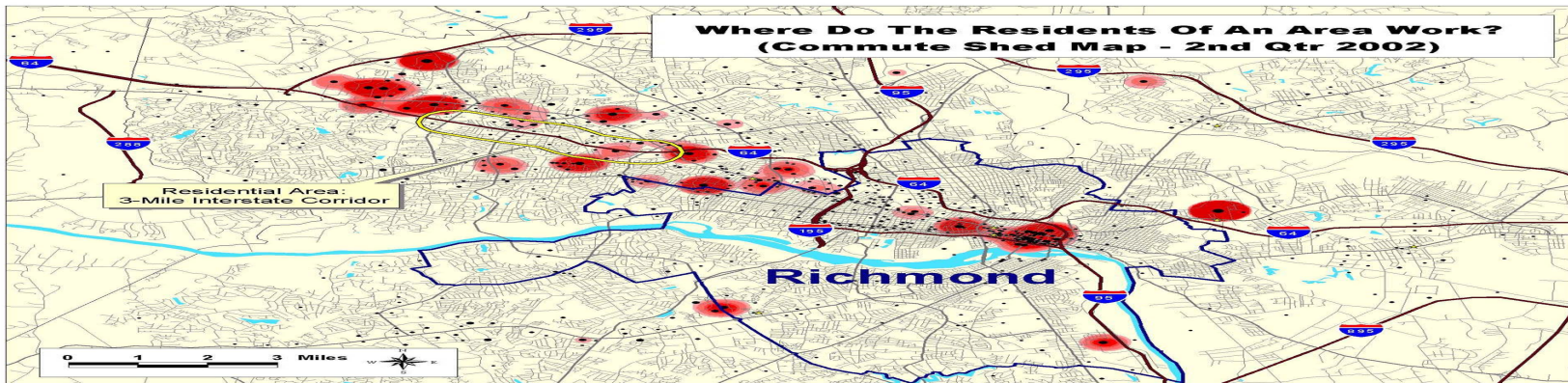
**Where Do The Residents Of An Area Work?  
(Commute Shed Map - 2nd Qtr 2002)**



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**COMMUTE SHED PROFILE REPORT – Richmond Corridor Area Example**  
**Selected Area Characteristics – Workers Living In-Area**

	<b>2002</b>	
	<b><u>Count</u></b>	<b><u>Share</u></b>
<b>Workers</b> (Based on Location of Primary Job)	6,216	100%
<b>Workers by Age</b>		
* Under age 30	1,926	31%
* Age 30 to 54	3,267	53%
* Age 55 or older	1,023	16%
<b>Workers by Earnings Paid</b>		
* Under \$15K	1,986	32%
* \$15K to \$39K	2,696	43%
* \$40K or more	1,534	25%
<b>Workers by Primary Industry</b> (2-digit NAICS – Top 10)		
* Retail Trade	931	15%
* Health Care and Social Assistance	716	12%
* Finance and Insurance	554	9%
* Accommodation and Food Service	515	8%
* Professional, Scientific, and Technical Services	459	7%
* Educational Services	431	7%
* Manufacturing	390	6%
* Admin. & Support, Waste Mgmt and Remediation	315	5%
* Construction	305	5%
* Mgmt of Companies and Enterprises	280	4%
* All other industries	1,320	22%

# Companion Report with LEHD Maps

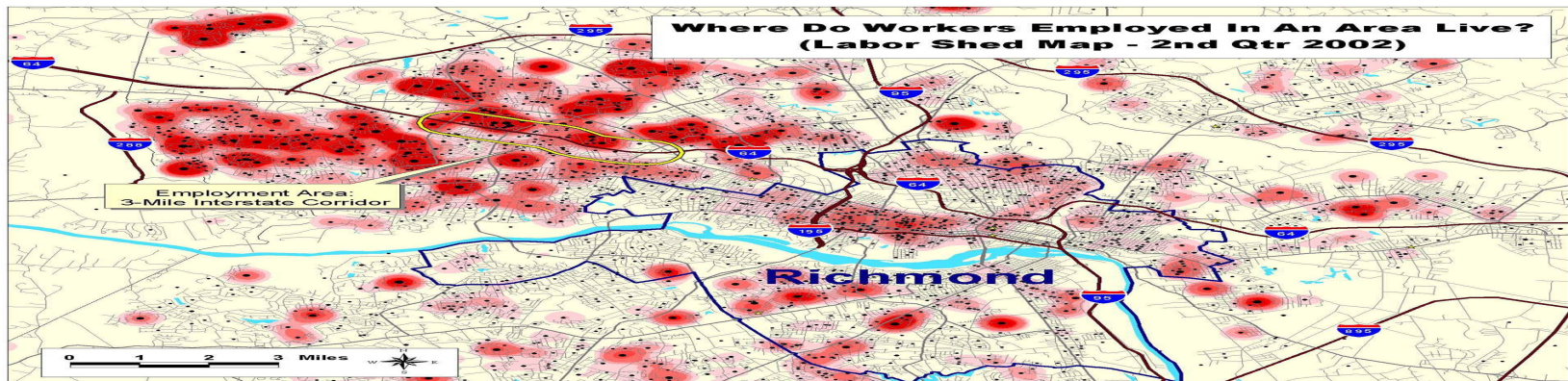
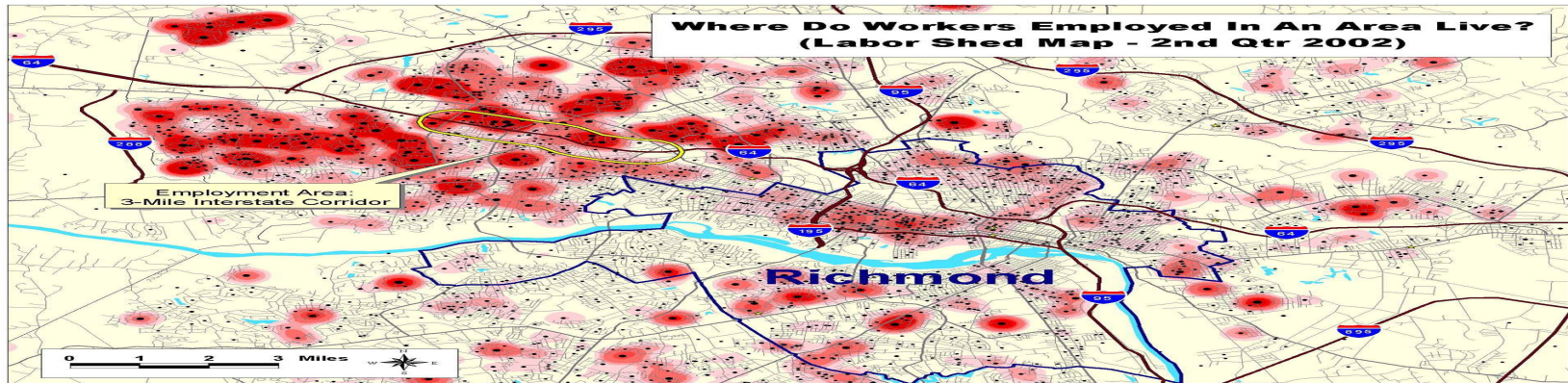
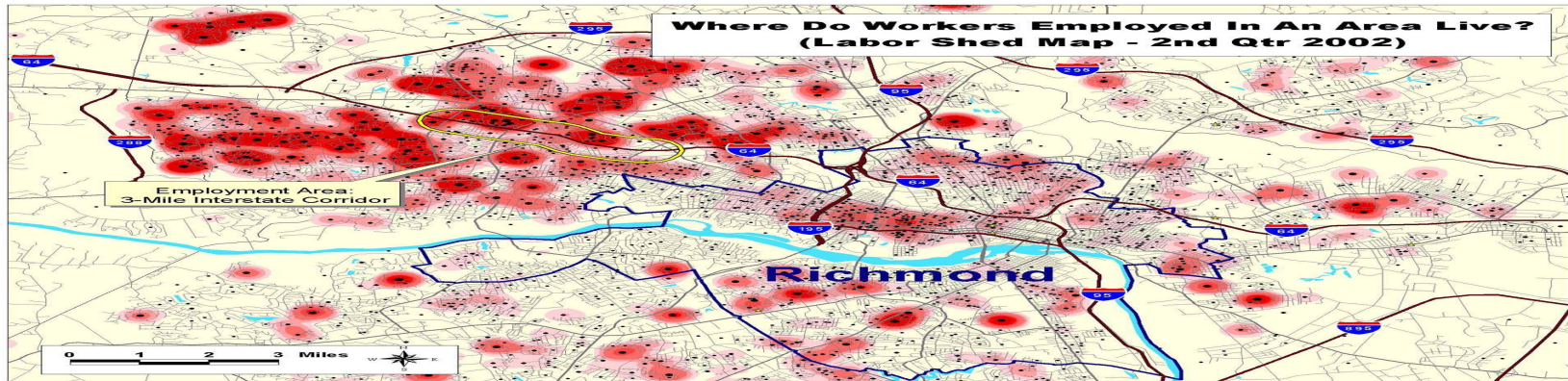
## **COMMUTE SHED PROFILE REPORT – Richmond Corridor Area Example** **Commute Shed Characteristics – Workplace Destinations**

	<b>2002</b>	
	<b><u>Count</u></b>	<b><u>Share</u></b>
<b>Workers (Based on Place of Residence)</b>	6,216	100%
<b>Destination Cities/Townships Where Workers are Employed</b> (Rank ordered listing)		
* Richmond	1,271	24%
* Three Chopt	1,077	20%
* Brookland	658	12%
* Varina	287	5%
* Fairfield	221	4%
* Tuckahoe	181	3%
* All other cities or townships	2,521	41%

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Source: LED Worker Origin/Destination Virginia Database (Employed Workers 2<sup>nd</sup> Qtr 2002)  
LED Quarterly Workforce Index (Full 2<sup>nd</sup> Quarter Jobs – 2002)







**LABOR SHED PROFILE REPORT – Richmond Corridor Area Example**  
**Selected Area Characteristics – In-Area Employment**

	<b>2002</b>	
	<b><u>Count</u></b>	<b><u>Share</u></b>
<b>Number of Employers</b>	621	
<b>Workers (Based on Location of Primary Job)</b>	12,878	100%
<b>Workers by Age</b>		
* Under age 30	4,505	35%
* Age 30 to 54	6,796	53%
* Age 55 or older	1,577	12%
<b>Workers by Earnings Paid</b>		
* Under \$15K	5,752	45%
* \$15K to \$39K	4,166	32%
* \$40K or more	2,960	23%
<b>Workers by Primary Industry (2-digit NAICS – Top 10)</b>		
* Admin. & Support, Waste Mgmt and Remediation	2,077	16%
* Accommodation and Food Services	1,709	13%
* Retail Trade	1,617	13%
* Health Care and Social Assistance	1,592	12%
* Professional, Scientific, and Technical Services	1,521	12%
* Finance and Insurance	908	7%
* Construction	856	7%
* Mgmt of Companies and Enterprises	803	6%
* Wholesale Trade	721	6%
* Real Estate and Rental and Leasing	344	3%
* All other industries	730	6%

**LABOR SHED PROFILE REPORT – Richmond Corridor Area Example**  
**Selected Area Characteristics – In-Area Employment**

	<b>2002</b>	
	<b><u>Count</u></b>	<b><u>Share</u></b>
<b>Quarterly Workforce Indicators (2nd Qtr)</b>		
* Total number of QWI jobs	8,487	100%
* Number of jobs created	755	9%
* Number of jobs eliminated	425	5%
* Number of worker separations	1,016	12%
- <i>Avg. earnings of separated workers</i>	\$1,360	
* Number of new hires	1,107	13%
- <i>Avg. earnings of new Hires</i>	\$2,399	

**Labor Shed Characteristics – Where Workers Come From**

	<b>2002</b>	
	<b><u>Count</u></b>	<b><u>Share</u></b>
<b>Workers (Based on Location of Primary Job)</b>	12,878	100%
<b>Cities/Townships Where Workers Originate</b> (Rank ordered listing)		
* Richmond	1,513	12%
* Three Chopt	851	7%
* Brookland	743	6%
* Tuckahoe	741	6%
* Fairfield	440	3%
* All other cities or townships	8,590	66%

# LEHD Supplementing ACS

- Provide data not previously available
  - E.g., environmental justice analysis: impact of transportation construction on a local community
- Small area estimation
  - Can alleviate small sample size issues
  - Almost complete coverage on workers
- Confidentiality protection
  - No longer at the expense of data availability
  - State-of-the-art methods on synthetic data already in use

# LEHD Supplementing ACS

- Making gains on operational efficiency
  - E.g., Geo-code enhancements
- Filling temporal or data gaps
  - E.g., primary and secondary job holders
  - E.g., longitudinal data to show the dynamics of trends and patterns at quarterly intervals

# LEHD Supplementing ACS

- Research and development
  - Adding new data sources - integration with transportation-related administrative records and surveys; e.g., federal employment
  - Adding new variables – race/ethnicity; drive time/distance; transport mode
  - Improving the physical addresses of multi-unit establishments
  - Customizing and meeting existing or new data requirements for transportation planning or analysis

“LEHD ... is the next generation  
of data collection and dissemination  
for the Census Bureau.”

*Charles Louis Kincannon*  
*Director*  
*U.S. Census Bureau*

*Before the House Subcommittee on Federalism and the Census*  
*May 10, 2005*

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