

MEMORANDUM

TO: Cooperative Forecasting Committee
FROM: Nicole McCall, Senior Regional Planner, Department of Transportation Planning
SUBJECT: Land Use Retail Employment Trends
DATE: December 5, 2017

With more and more consumers shopping online, there is continued discourse about E-Commerce's influence on brick and mortar retail. Between 2000 and 2015, the U.S. Census Bureau estimates that E-Commerce increased from less than 1 percent to 7 percent of retail trade sales¹. According to the UPS Pulse of the Online Shopper², in early 2016 online shoppers, those that made at least 2 online purchases in a typical 3-month period, made just over half of their purchases online.

The Cooperative Forecasting Committee distributes its employment estimates and projections into four land use categories: office, retail, industry, and other. Among the land use categories, retail attracts the greatest number of trips. This memo builds upon the April 13, 2016 memo, "Differences in Economic Industry and Local Land Use Definitions of Retail Employment," and explores trends in retail employment as well as E-Commerce.

ESTIMATING RETAIL EMPLOYMENT

To develop an estimate of employment for the land use category of retail, several NAICS codes must be combined. This land use category includes all business establishments engaged in the selling of goods and/or personal services at physical locations open to the general public that are not wholesale in nature. Examples include: Stores, Shopping Centers, Eating and Drinking Establishments, Personal Care Services, Other Consumer Services, Gas Stations, Auto Repair, Automobile Dealers, and Auto and Truck Rentals, and Repair Services.

Figure 1: Components of Land Use Retail Employment



More details and a rationale for this approach are provided in the April 14, 2016 memo noted above; one minor update is to subtract NAICS 7223 (Special food services - establishments primarily engaged in providing food services at the customer's location, at a location designated by the customer, or from a motorized vehicle or non-motorized cart.)

¹ <https://www.census.gov/programs-surveys/e-stats.html>

² https://solvers.ups.com/assets/2016_UPS_Pulse_of_the_Online_Shopper.pdf

RETAIL EMPLOYMENT VERSUS POPULATION

Land use retail employment grew at a rate close to overall population between 2000 and 2016. This relationship is explored in more detail below.

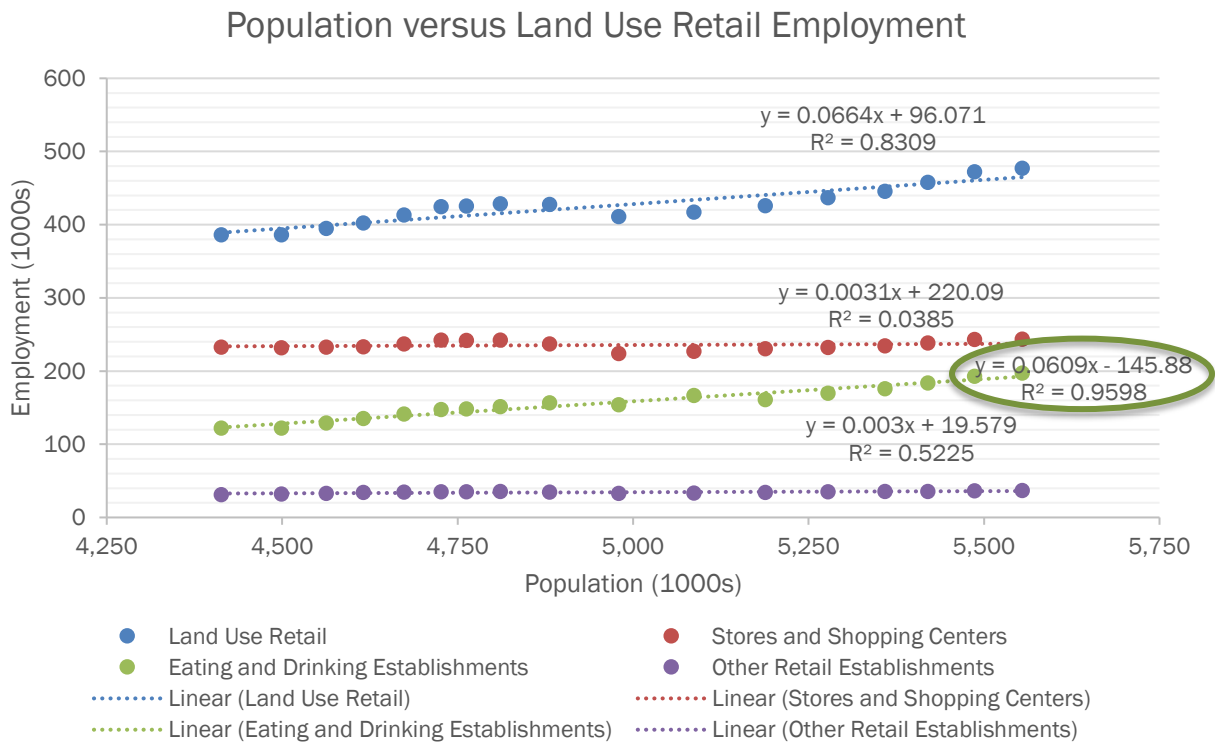
Table 1 Land Use Retail Employment and Population in Metropolitan Washington, 2000 and 2016

	2000	2016	Growth
Land Use Retail Employment	386,009	459,387	19%
Population ¹	4,413,400	5,388,700	22%

Source: COG Econometric Model and BLS QCEW

Figure 1 displays the population and land use retail employment (including its components) in a scatter plot. The simple trendlines show a strong positive relationship between population and land use retail employment. Reviewing the components, it becomes clear that the relationship between population and land use retail employment is primarily driven by employment at eating and drinking establishments. There is a moderate positive relationship between population and other and little to no correlation between population and stores and shopping centers.

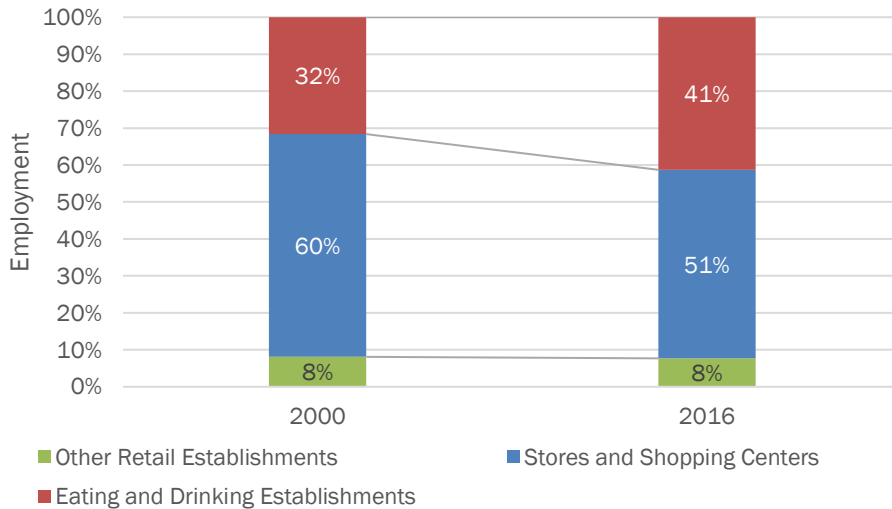
Figure 2: Population and Local Land Use Retail Employment



Source: COG Econometric Model and BLS QCEW

Between 2000 and 2016, the composition of land use retail employment changed. The proportion of stores and shopping centers decreased while eating and drinking establishments increased. Other retail establishments remained at 8 percent between 2000 and 2016, as well as for each of the intermediary years.

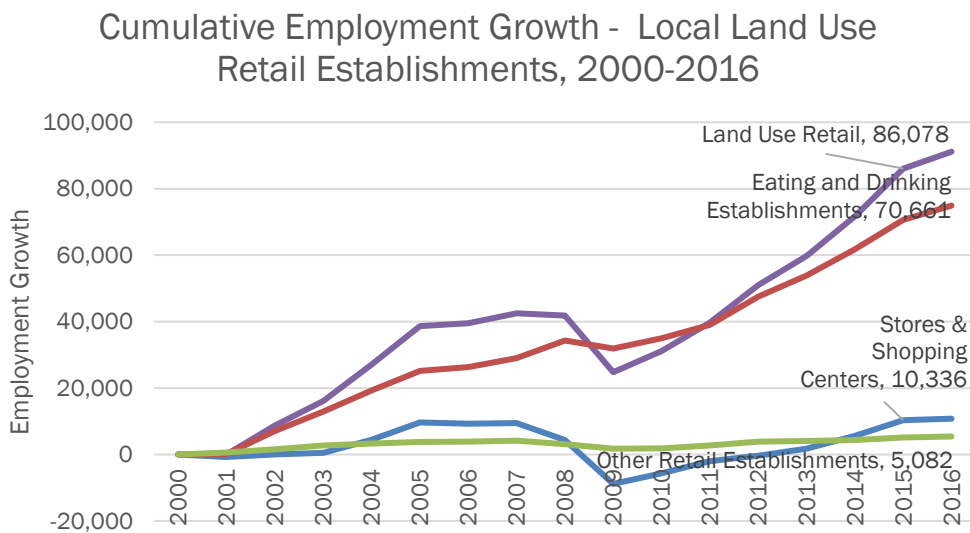
Figure 3 Composition of Land Use Retail Employment, 2000 versus 2016



Source: BLS QCEW and COG

Cumulative employment growth shows that most of the increase in local land use retail growth employment is due to eating and drinking establishments. In contrast, employment at other retail establishments remained flat. Employment at stores and shopping centers began to decline in 2008, due to the impact of the Great Recession, and did not recover to 2000 levels until 2013. It wasn't until 2015 that employment at Stores & Shopping Centers surpassed pre-recession levels.

Figure 4: Cumulative Employment Growth - Local Land Use Retail, 2000-2016



Source: BLS QCEW and COG

E-COMMERCE

The US Census Bureau's E-Commerce Statistics provide insight on how this part of retail sales has grown over the last 15 years. E-Commerce sales increased from 0.9 to 7.2 percent of Annual U.S. Retail Trade Sales between 2000 and 2015. Eighty-seven percent of E-Commerce sales are by Electronic shopping and mail order houses, however most retail business types have increased their E-Commerce sales over the last 15 years.

Table 2: E-Commerce Share of Annual U.S. Retail Trade Sales by Business Type

NAICS	Retail Business Types	2000	2015
	Total Retail Trade	0.9%	7.2%
441	Motor vehicles and parts dealers	0.5%	2.7%
442	Furniture and home furnishings stores	S	0.6%
443	Electronics and appliance stores	0.5%	1.3%
444	Building materials and garden equipment and supplies stores	0.1%	0.5%
445	Food and beverage stores	0.0%	0.2%
446	Health and personal care stores	S	D
447	Gasoline Stations	S	D
448	Clothing and clothing accessories stores	S	1.6%
451	Sporting goods, hobby, book and music stores	0.5%	2.6%
452	General merchandise stores	S	0.0%
453	Miscellaneous store retailers	0.3%	2.5%
454	Nonstore retailers	12.0%	58.1%
4541	Electronic shopping and mail order houses	18.6%	68.0%

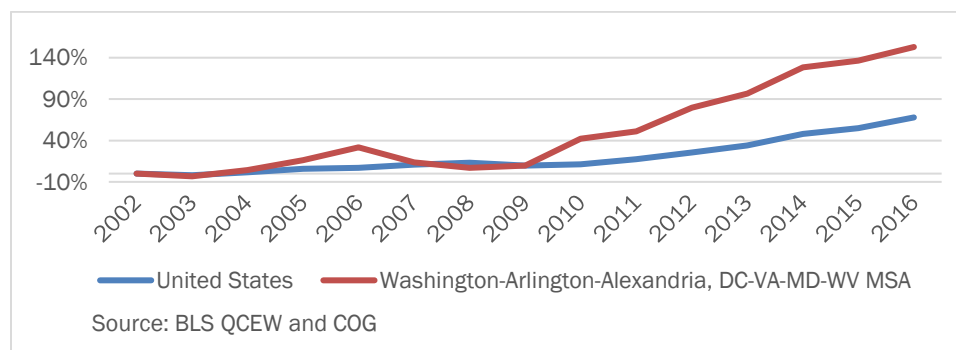
Source: US Census Bureau E-Commerce Statistics

S = Estimate does not meet publication standards because of high sampling variability (coefficient of variation is greater than 30%), poor response quality (total quantity response rate is less than 50%), or other concerns about the estimate's quality.

D = Denotes an estimate withheld to avoid disclosing data of individual companies; data are included in higher-level totals.

Between 2002 and 2016, employment at Electronic Shopping and Mail Order Houses increased by 68 percent, from 219,000 thousand to 367,000. In the Washington-Arlington-Alexandria, DC-VA-MD-WV MSA, it increased by 153 percent, from 1,300 thousand to 3,200 thousand.

Figure 5: Cumulative Employment Growth at Electronic Shopping and Mail-Order Houses, 2001-2016



FINDINGS

- There is a strong, positive relationship between population and employment at Eating and Drinking Establishments.
- Land Use Retail employment changed in composition between 2000 and 2016. While the proportion of Eating and Drinking Establishments increased, Stores and Shopping Centers decreased.
- The increase in Land Use Retail employment between 2000 and 2016 was driven by Eating and Drinking Establishments.
- In 2015, 7.2 percent of Annual U.S. Retail Trade Sales transactions were through E-Commerce.
- Employment increased at Electronic Shopping and Mail-Order houses between 2001 and 2017; at a faster pace than the rest of the nation in the Washington MSA.