Transit Station Proximity and Share of Regional Jobs

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Abstract
The extent to which there is an association between regional share of jobs with respect to distance from type of fixed guideway transit station and change in share over time is not known. This article closes the gap in literature by reporting the regional share of jobs and change in share of jobs over time with respect to distance bands from light rail transit (LRT), bus rapid transit (BRT) and streetcar transit (SCT) systems. Two analyses are used. In the first, regression analysis is used to estimate the regional share of jobs with respect to distance bands from transit stations cumulatively from 2004 through 2011. Results for this analysis show increasing regional share of jobs with respect to transit station proximity. For LRT stations, significant, positive shares of regional jobs extend out 1.75 miles from transit stations while for SCT stations the distance is 1.5 mile but for BTR stations the distance is only 0.50 miles with negative regional shares extending from 0.50 to 1.0 mile. In the second, regression analysis is used to estimate the annual share of regional jobs with respect to distance bands for transit stations for each year, 2004 through 2011. It shows that job-attraction effects of BRT systems are very tight, being almost entirely within the first one-eighth mile. LRT systems saw three-quarters of the effect within one-half mile while for SCT systems two-thirds of the effects occurred within one-half mile. Findings and implications for employment-based transit-oriented development (TOD) planning are offered.

Overview
Urban areas are formed and grow in large part by creating agglomeration economies (Glaeser, 2011). Annas, Arnott and Small define the term as “the decline in average cost as more production occurs within a specified geographical area” (1998, p. 1427). As more firms in related sectors cluster together, costs of production fall as productivity increases. These economies can spill over into complementary sectors (Holmes, 1999). Cities can become ever larger as economies of agglomeration are exploited (Ciccone and Hall, 1996). Transportation improvements make it possible to reduce transportation times, increasing the size of market areas and the effective size of industrial clusters. If cities get too large, however, transportation congestion may have a counter-productive force, encouraging the relocation of firms (Bogart, 1998). Highway projects have been shown to induce this change in metropolitan form, and at a net cost to society (Boarnet, 1997; Boarnet and Haughwout, 2000). More recent research shows that the degree of suburbanization significantly varies within metropolitan regions, in accordance to both variation in the levels of population de-concentration drivers and due to sub-regional fixed effects (Ganning and McCall, 2012). Thus, the preservation of and creation of new agglomeration economies within metropolitan regions varies considerably and in ways that may be influenced by policy decisions.

A key role of fixed guideway transit (FGT) is to facilitate agglomeration economies by mitigating transportation congestion effects of automobile traffic induced by agglomeration. This is because, as Voith (1998) notes, public transit is essentially “noncongestible” and is best suited to sustaining agglomeration economies in high density nodes as well as along the corridors that connect them. Nonetheless, not all economic sectors benefit from agglomeration economies and/or density.

In part because of their role in facilitating agglomeration economies, there is a growing body of research showing that FGT systems enhance economic development (see Nelson et al., 2009). Transit improves accessibility between people and their destinations by reducing travel time relative to alternatives (Littman, 2009). At the metropolitan scale, adding FGT systems in built-up urban areas increases aggregate economic activity (Graham, 2007). There is another aspect of agglomeration economies identified by Chatman and Noland (2011). Although transit systems can lead to higher-density development by shifting new jobs and population to station areas, it could lead instead to the redistribution of existing development even in the absence of growth, as in the case of Detroit (Galster, 2012).

Transit station-related agglomeration effects should be seen as a larger share of regional jobs closer to transit stations than elsewhere in the region. At the time research began leading to this article, there were only two studies assessing job change near transit stations. The first, Belzer et al. (2011), measured only the change in jobs by economic sector from 2002 to 2008 within one half mile of transition stations and not change in share of regional jobs. In the second, Nelson et al. (2011) evaluated the change in share of jobs by sector within one-eighth mile and one-quarter mile of Eugene-Springfield BRT stations between 2004 and 2010. In other words, there are no national studies evaluating the variation in regional share of jobs with respect to transit station distance. This article reports research that closes this gap in the literature. In particular, the focus of the research reported in this article is to determine:

- Whether and the extent to which transit systems are associated with higher shares of regional jobs in distance bands closer to transit stations and
- The extent to which job shares with respect to distance bands changes over time.

Research Design

Theoretically, areas near transit stations should have much better accessibility. By reducing the effects of congestion, transit stations should abet both the preservation of existing agglomeration economies and the creation of new ones. Without the diseconomies of congestion, existing employment clusters should continue to grow, and the relative concentration of employment within clusters served by transit systems should grow and continue to increase.

The study uses a quasi-experimental design in the sense that changes in employment concentration over time as a function of distance from transit stations are with respect to their respective counties, called "transit counties", within each metropolitan area. Transit stations were located using geographic information system protocols. Employment data come from the Longitudinal Employer-Household Dynamics (LEHD) program.[1] For all transit systems studied, two-digit NAICS data are available annually from 2004 through 2011 at the census block level. Specific transit systems included in the study are:

Light rail transit (LRT): Charlotte, Dallas, Denver, Houston, Minneapolis, Phoenix, Portland, Sacramento, Salt Lake, San Diego and Seattle.

Bus rapid transit (BRT): Bronx (New York City), Cleveland, Eugene-Springfield, Kansas City, Las Vegas, Los Angeles, Phoenix, Pittsburgh, and Salt Lake City.

Streetcar transit (SCT): Portland, Seattle and Tampa.

[1] For details, see http://lehd.ces.census.gov/.

Regression analysis is used to assess the change in the spatial distribution of job share over the study period, 2004 through 2011, and annually. The following reduced-form model is used:

$JS_i = f(D_i, M_i)$

where:

> **JS** is the job share based on LEHD data for the block group's share of "transit county"*i* jobs calculated as [log(BG jobs / Transit County jobs) * 100] so that coefficients are interpreted as percentages;
>
> **D** is the distance band of the block group centroid to the nearest transit station in one-eighth, one-quarter, one-half, three-quarter, 1.0, 1.25, 1.50 and 1.75 mile distance bands *i*; and
>
> **M** is a control indicating the metropolitan area within which the transit county *i* is located. This variable helps account for the variation in job share by distance band with respect to different FGT modes attributable to variation in transit counties such as growth rate, economic structure, demographic features, and transit system characteristics among others.

Future research will consider adding socioeconomic and urban form controls, though given the sample size and robust performance of the variables the central tendencies of direction and magnitude of association are unlikely to change meaningfully (see also Nelson and Ganning 2015).

Results

Two analysis are reported. The first looks at the share of jobs by distance band for each of the transit modes cumulatively from 2004 through 2011.

The analysis second evaluates annualized results showing changes in distribution between years over the study period.

Change in Job Share over Time by Transit Mode

Results for the change in transit county share of jobs over the period 2004 through 2011 with respect to distance band for each FGT system are reported in Tables 1, 2 and 3 for LRT, BRT, and SCT systems respectively. Figures 1, 2 and 3 illustrate the findings.

It is important to note that coefficients represent the census block group's share of total transit county employment. Second, the coefficients are themselves percentages so 0.50 means 0.50 percent; the reason is that the dependent variable is the share of jobs multiplied by 100 before being transformed into a logarithm. The numbers may thus look small but when cumulated across all block groups within a distance band they are not trivial.

In the regression results for LRT, Table 1 shows that 0.81 percent of the Transit County's share of jobs is within the 1/8 mile band, holding all other factors constant. Like SCT, the results suggest that the job share declines evenly to about 1.75 miles, a little further than SCT. Figure 1 illustrates this.

The dependent variable is "Transit County Share of Jobs within the Distance Band", logged (resulting in a semi-log model). The distance band beyond 1.75 miles is the referent. Because there are only three SCT systems for which adequate data exist, we use Portland as the referent. The job shares are inclusive to just the band, not cumulative. Seattle's LRT system is used as the referent. While the adjusted coefficient of determination is modest, nearly all coefficients are statistically significant at the 0.01 level of the two-tailed test (because directions of association are predicted). The coefficients for distance bands are percentages indicating, for instance, that 0.809 percent of the transit county's share of jobs is within the 1/8 mile band holding all other factors constant.[2] Figure 1 illustrates the relationship between LRT transit station distance and share of job change over time.

A similar analysis is done for BRT station distance. The regression equation is reported in Table 6. Nine BRT systems are included in the analysis, all operating before 2008 and most since 2004. The Bronx BRT is used as the referent. As the coefficients are percentages, one can see that 0.49 percent of the transit county's share of jobs is within the 1/8 mile band holding all other factors constant. There are positive effects to about 1/2 mile then negative effects to 1 mile. Figure 2 illustrates this. Though most BRT systems serve downtowns, their networks on the whole serve regions. In a regional context where land use patterns are low density/intensity, land-use integration is weak thereby compromising walking and biking, and the automobile is a more efficient mobility choice. The job market seems to reflect this as firms value BRT only within a tight range.

The next analysis is of the three SCT systems. The distance band beyond 1.75 miles is the referent while Portland, with the oldest streetcar system, is also used as the system category referent. The coefficients are percentages indicating that 0.89 percent of the transit county's share of jobs is within the 1/8 mile band holding all other factors constant.

The result is quite interesting: the share of jobs declines evenly to about 1.5 miles beyond which there is not a significant relationship. Figure 3 illustrates this. Because SCT systems serve only downtowns and adjacent areas, and are not the kind of regional-serving systems LRT and BRT are, they serve a truly urban fabric where walking, biking and transit are more efficient than driving. That the job market reflects such a smooth gradient may indicate that firms value this mode option in downtowns. Of course, SCT systems are often designed to serve highly developed areas so there is the self-fulfilling prophesy angle. Nonetheless, even if that were the case, having this relationship sustain or even create the illustrated relationship should be of interest in transit planning and policy.

Of the three modes, LRT seems the most robust in influencing firm location (with associated jobs) across larger areas than SCT and BRT. Indeed, comparable to our research which finds

[2] It is not 8.09 percent because the dependent variable was multiplied by 100 before being transformed into a logarithm.

market capitalization of rents in metropolitan Dallas out to 1.85 miles (Nelson et al 2015), we further find significant employment effects to about 1.75 miles. We surmise that a long-term regional transit strategy at least for metropolitan areas with well over one million residents will generate more economic outcomes than SCT or BRT. But if the strategy is limited to just serving downtown and nearby needs, SCT may generate more economic activity.

Annualized Analysis

The final analysis applies the regression model used above for each individual year from 2004 through 2011 and graphs results for each year. Tables 8, 9 and 10 report only the regression coefficients for the LRT, BRT and SCT equations, respectively, highlighting the distance band variables that are significant. Figures 4, 5 and 6 illustrate results, also respectively.

Using this approach, one can see that SCT stations are attracting an increasing share of transit county jobs, increasing from 0.87 percent in 2004 to 9.4 percent in 2011 in the first 1/8 mile band with larger changes up to about a mile. LRT performance was even better, increasing from 0.76 percent to 0.88 percent in the first 1/8 mile band, though at much smaller rates outward. In contrast, BRT lost share.

It appears that SCT systems may influence change in job share, favoring SCT stations at a faster pace over time than other systems and over a distance exceeded only by LRT systems. For their part, LRT systems have the longest area over which job share seems to be influenced, but beyond the 1/8 mile band it is less pronounced than SCT. BRT systems appear to have positive share effects but only across about half the distance or less, and at half the rate.

One can see from all analyses that the first three distance bands—one-eighth, one-quarter, and one-half mile—account for the largest share of change among all bands. Moreover, the coefficients for the BRT bands beyond 1/2 mile are not significant. Literature also suggests that the largest share of development around transit stations occurs within the first one-half mile. Table 11 sums the coefficients for each transit type for those three distance bands, calculates the compounded annual average change, and sums the results (assuming individual distance band coefficients can be cumulated).

The implication is that given the study period and selection of systems (comprising the universe of systems operating in 2008), and controlling for metropolitan area location—though not other factors—the share of census block group jobs within 1/2 mile of SCT stations increased by 1.8 percent annually, compounded. This is about half again higher than for LRT systems. BRT performance indicates BRT systems are losing share of jobs within their metropolitan areas. On the other hand, the absence of BRT systems in those metropolitan areas may have led to higher rates of share-loss.

Summary and Implications

Three analyses are used to estimate the effect of LRT, BRT and SCT systems on employment distribution over time with respect to distance from transit stations. The first analysis uses the shift-share technique comparing the shift in share of jobs with respect to one-half mile distances from transit stations before the Great Recession and during the recession and recovery. Before the recession, nine of the eleven LRT systems analyzed lost job share, as did six of eight BRT lines and all SCT systems. The situation has changed dramatically during recovery as eight of the LRT systems increased share of jobs (four gaining share absolutely and four losing less share) as did all but two of the BRT lines (all gaining absolute share) and all SCT systems gained absolute share. Though subject to further analysis, it would appear that transit systems are becoming more attractive to new and relocating jobs since the Great Recession. It could be that after the economic turmoil associated with the Great Recession, firms may be hedging their location bets by choosing locations where agglomeration economies, combined with transportation options, increase their chances of survival during downturns, and increase returns during recovery and beyond.

The next analysis used semi-log regression to estimate the change in jobs compared to transit counties with respect to distance bands. LTR systems saw gains in share of transit county employment from 2004 through 2011 out to 1.75 miles from stations, with the highest share of change occurring at closer distances. SCR systems also saw positive influences out to 1.5 miles—with declining shares as distance increased— though the three systems analyzed tend to serve only downtown and near downtown areas. BRT systems performed the least well with positive job share change out to just one half mile and with coefficients for the one-eighth mile distance band being a third less than for LRT and SCT stations. On the other hand, most of the BRT lines included in the analysis served slow-growing and stagnating transit counties in the Cleveland, Kansas City, and Pittsburgh metropolitan areas. Nonetheless, as the regression equation accounted for metropolitan areas, a key finding of this analysis is that LRT systems appear to have the greatest effect in shifting regional jobs to transit stations, followed closely by SCT stations which may serve only downtown and near downtown areas, and BRT systems within about one-half mile from transit stations.

The final analysis applied the semi-log regression model to each transit type annually over the period 2004 through 2011. By summing the coefficients for each distance band it is possible to see and visualize the proximity effects over time and for any given year including:

- For LRT systems, about three-quarters of the change in share of jobs attributable to LRT transit stations occurred within the first one-half mile. Within this one-half mile, two-fifths of the change occurred within the first one-eighth mile, about one third within one-eighth and one-quarter mile, and about one sixth within the next one-quarter mile. There are substantially different shares between these bands.

- For SCT systems, two-thirds of the change in share of jobs attributable to LRT transit stations occurred within the first one-half mile. Within this one-half mile band, roughly 40 percent of the change occurred within the first one-eighth mile, with roughly equal shares of distribution between one-eighth and one-eighth to one-quarter mile bands. Compared to LRT systems, the slope of the distribution of job share change is flatter.

- Findings with respect to BRT lines are starkly different. For one thing, there is no significant, positive association between BRT stations and share of job change over time. Indeed, about three quarters of the change in share of jobs occurred within the first one-eighth mile and another one-fifth between one-eighth mile and one-quarter mile for a total of perhaps about 90 percent —consistent with Nelson et al.'s shift-share case study of the Eugene-Springfield, Oregon BRT system (Nelson et al. 2013).

These findings can help refine transit-oriented development planning around transit stations. For BRT systems, TOD planning may focus principally on the first one-eighth mile and less-so between one-eighth mile and one-quarter mile. In contrast, roughly equal amounts of priority may be given to employment-based TOD planning around SCT stations perhaps because these systems are located in highly dense urban environments more conducive to walking than other parts of metropolitan areas. Employment-based TOD planning for LRT systems falls somewhere in between that for BRT and SCT systems with highest, second, and third priorities given to each band with respect to station distance. Unlike BRT systems however—where employment-based TOD planning may not be justified beyond the first one-half mile and perhaps not even beyond the first one-quarter mile, some effort could be justified for TOD planning as far away as 1.5 miles from LRT and SCT stations, consistent with findings for LRT systems based on work by Nelson et al. (2015).

The analysis only shows associations. Future research may attempt to demonstrate causality. Future research can also refine the relationship between transit station distance and change in share of jobs for individual economic sectors or clusters of sectors.

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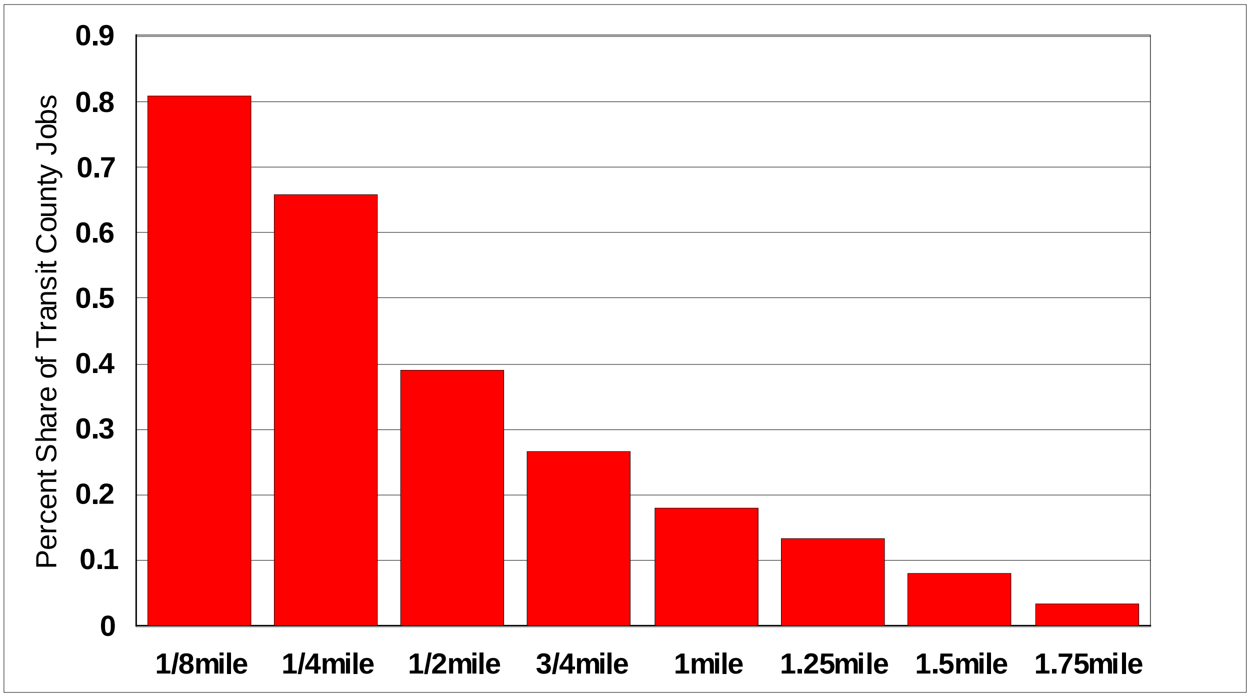

Figure 1
Percent of transit county job share change with respect to distance band from light rail transit stations
Note: All distance band coefficients are significant.

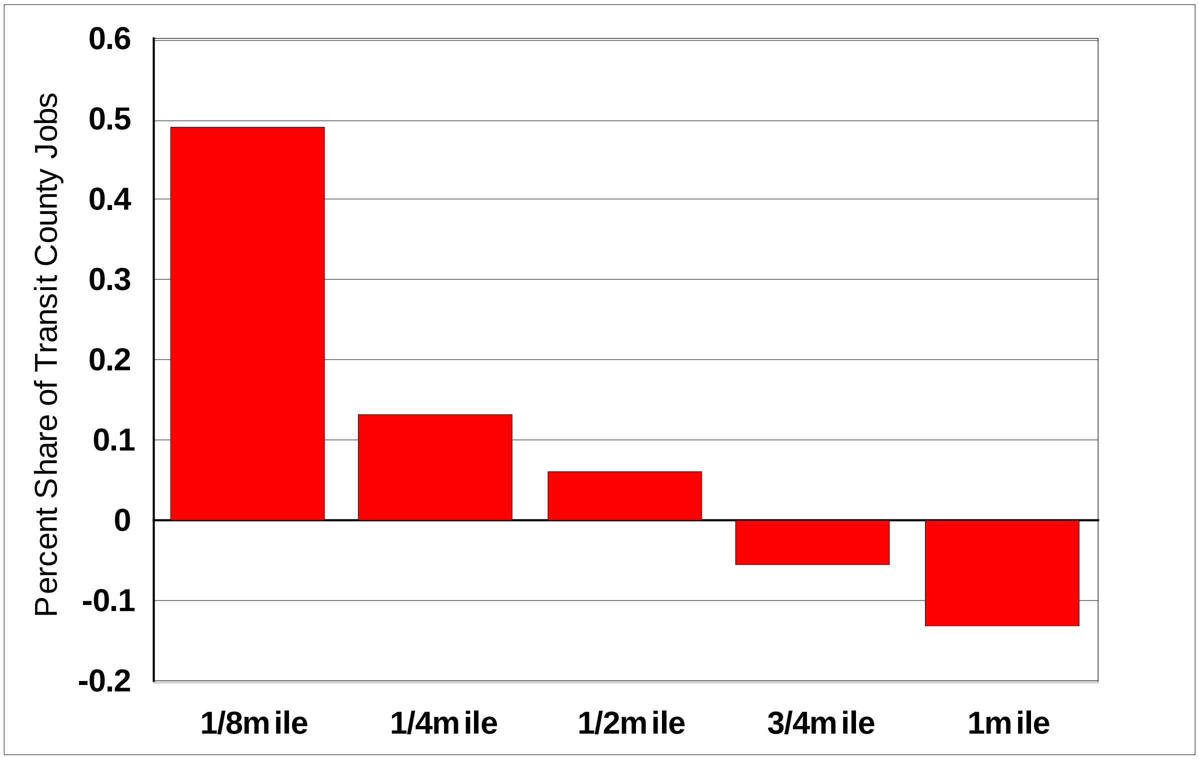

Figure 2
Percent share of transit county jobs by distance band from bus rapid transit station

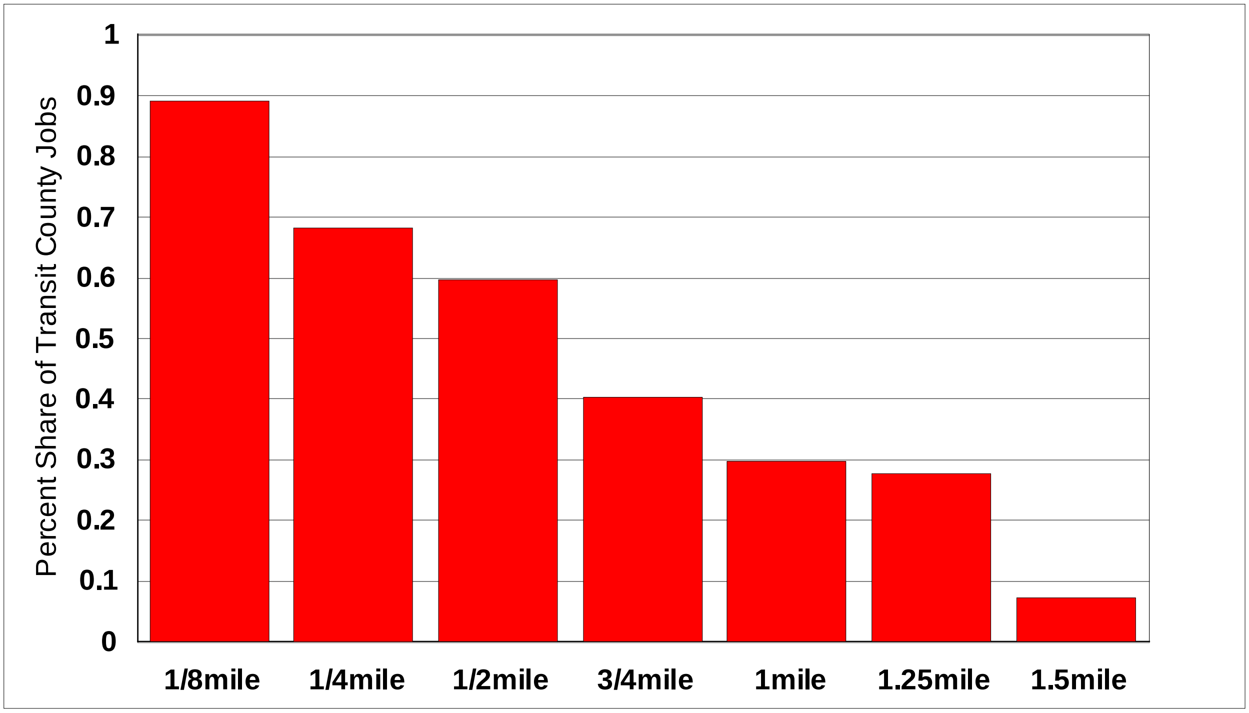

Figure 3
Percent share of transit county jobs by distance band from street car transit station

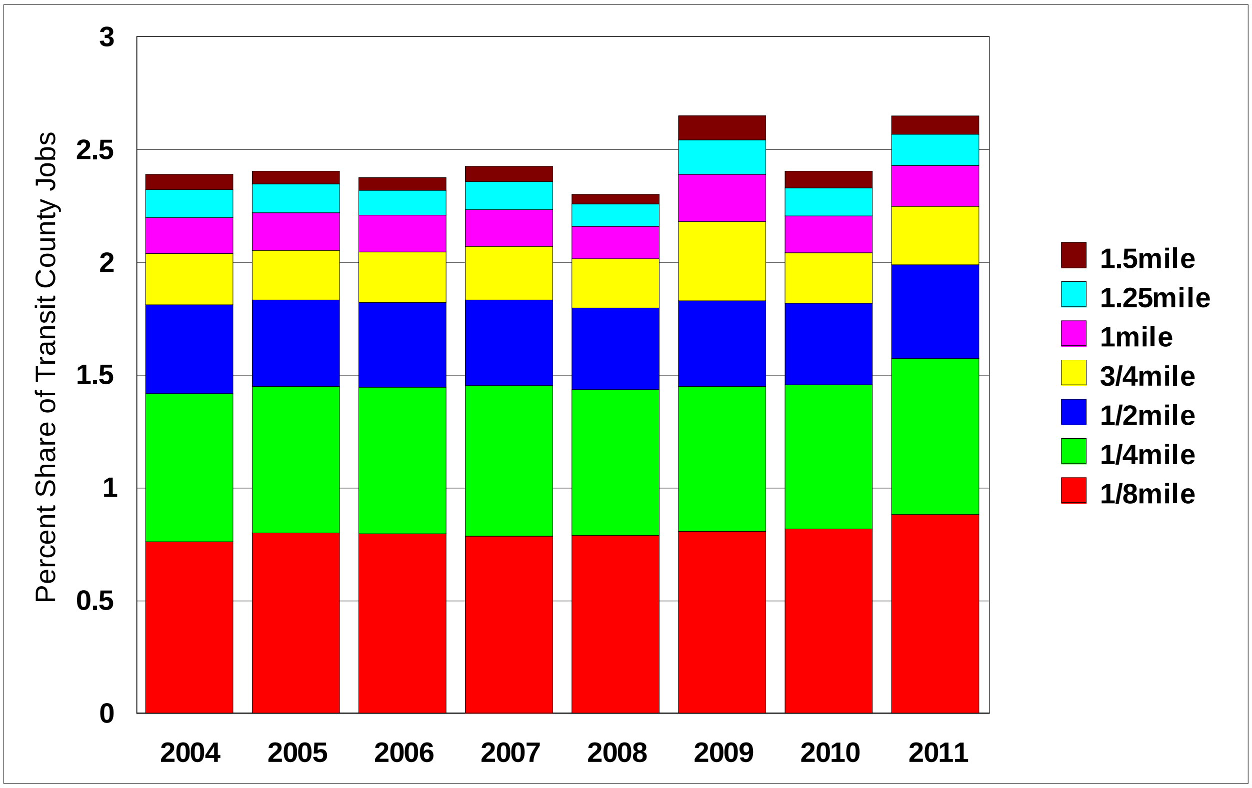

Figure 4
Annual distribution of jobs by LRT station distance band, 2004-2011

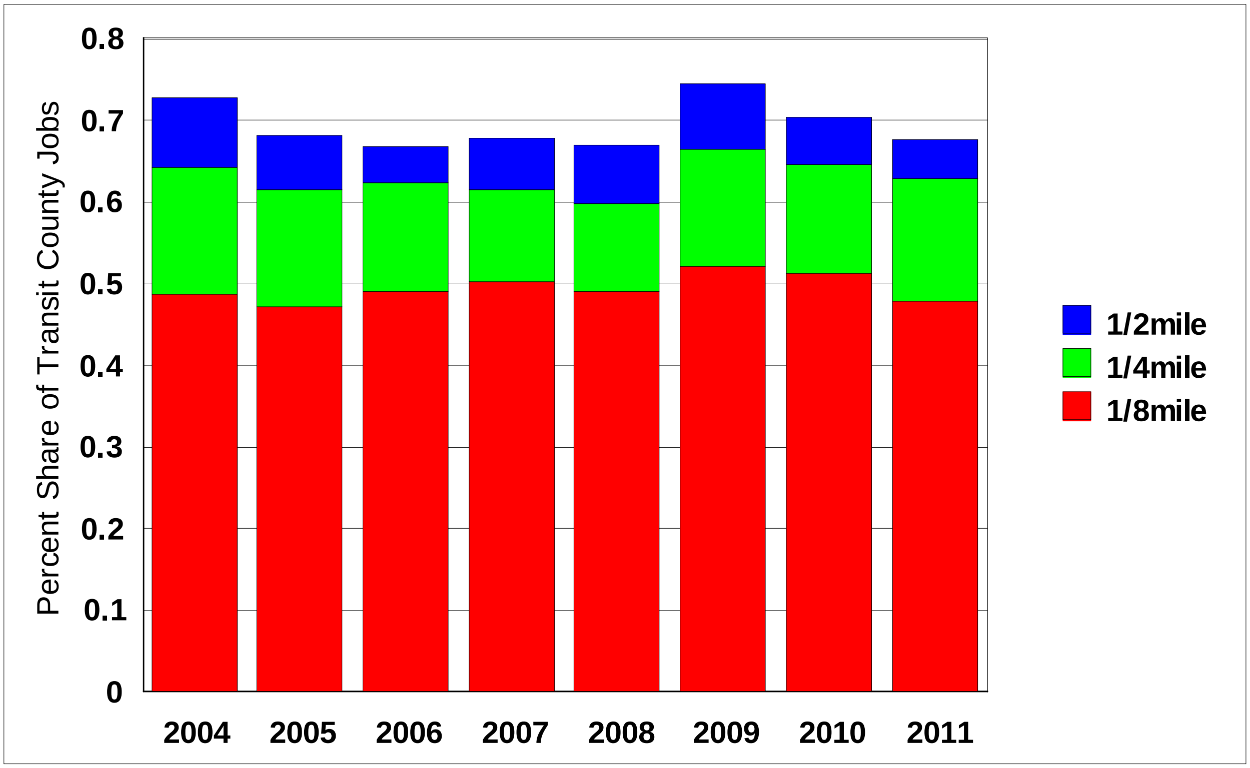

Figure 5
Annual distribution of jobs by BRT station distance band, 2004-2011

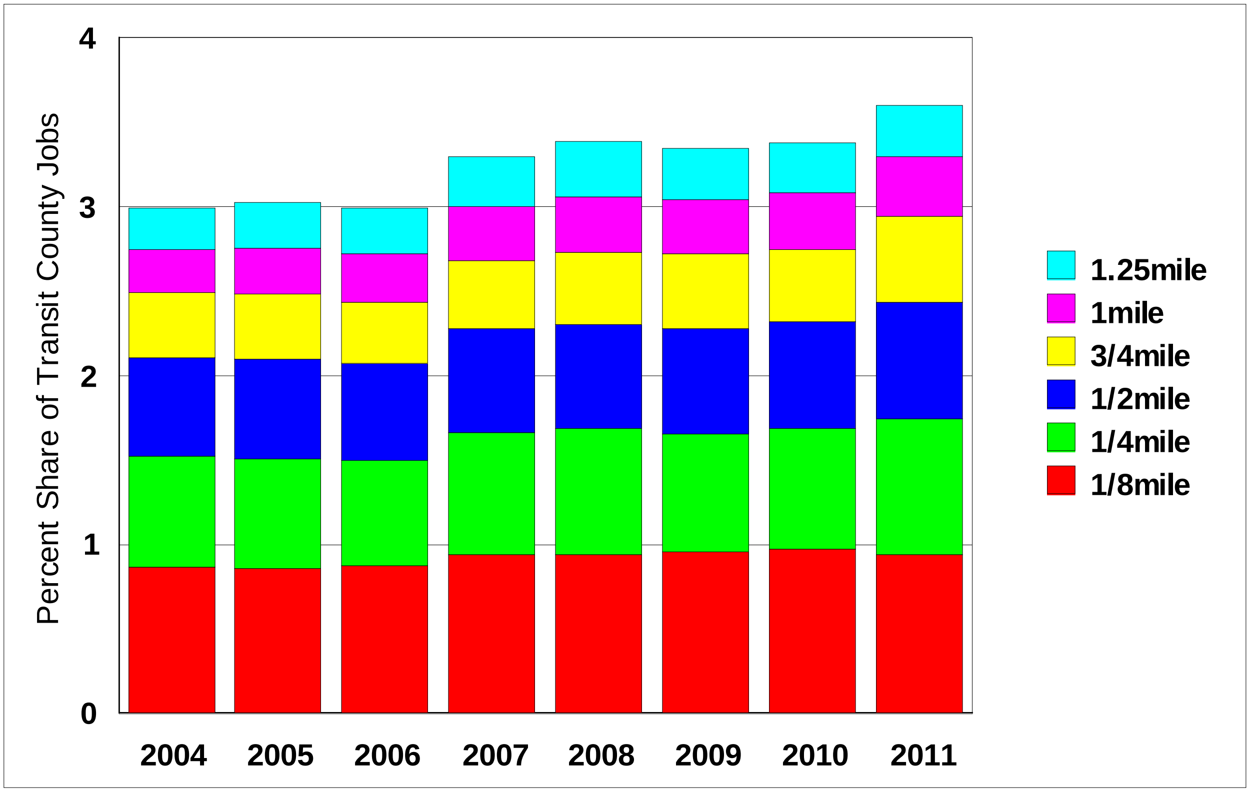

Figure 6
Annual distribution of jobs by SCT station distance band, 2004-2011

Table 1
Distribution of Jobs With Respect to Light Rail Transit Station Distance, 2004-2011

Variable	Beta	Error	t-score	2-tail *p*
Constant	-2.625	1.572	-1.669	0.095
Year	0.000	0.001	-0.410	0.682
1/8mile	**0.809**	0.012	68.668	0.000
1/4mile	**0.657**	0.009	75.457	0.000
1/2mile	**0.390**	0.007	53.854	0.000
3/4mile	**0.266**	0.007	40.606	0.000
1mile	**0.180**	0.006	27.868	0.000
1.25mile	**0.133**	0.006	20.532	0.000
1.5mile	**0.080**	0.007	12.145	0.000
1.75mile	**0.034**	0.007	5.112	0.000
Dallas	0.015	0.010	1.400	0.161
Denver	0.627	0.011	57.852	0.000
Houston	-0.105	0.011	-9.658	0.000
Minneapolis	0.415	0.012	35.258	0.000
Phoenix	0.207	0.011	18.840	0.000
Charlotte	0.683	0.012	55.167	0.000
Portland	0.640	0.011	59.035	0.000
Sacramento	0.337	0.012	29.280	0.000
Salt Lake	0.680	0.014	48.228	0.000
San Diego	0.066	0.011	6.171	0.000
N	207,183			
R^2-adjusted	0.157			
F-ratio	2030.139			

Note: Significant distance band coefficients in bold.

Table 2
Distribution of Jobs With Respect to Bus Rapid Transit Station Distance, 2004-2011

Variable	**Beta**	**Error**	**t-score**	**2-tail *p***
Constant	-16.061	1.844	-8.708	0.000
Year	0.007	0.001	7.828	0.000
1/8mile	**0.492**	0.040	12.192	0.000
1/4mile	**0.133**	0.019	7.178	0.000
1/2mile	**0.063**	0.012	5.390	0.000
3/4mile	**-0.053**	0.012	-4.415	0.000
1mile	**-0.129**	0.011	-11.567	0.000
1.25mile	-0.023	0.012	-1.930	0.054
1.5mile	-0.004	0.012	-0.333	0.739
1.75mile	-0.039	0.012	-3.210	0.001
Phoenix	-0.455	0.009	-48.571	0.000
Los Angeles	-0.784	0.008	-92.238	0.000
Kansas City	0.803	0.013	61.521	0.000
Las Vegas	-0.334	0.011	-31.403	0.000
Cleveland	0.501	0.011	46.664	0.000
Eugene	0.792	0.017	45.946	0.000
Pittsburgh	0.043	0.011	4.008	0.000
Salt Lake	0.289	0.013	22.631	0.000
n	119,277			
R^2-adjusted	0.339			
F-ratio	3597.95			

Note: Significant distance band coefficients in bold.

Table 3
Distribution of Jobs With Respect to Street Car Transit Station Distance, 2004-2011

Variable	**Beta**	**Error**	**t-score**	**2-tail *p***
Constant	-19.932	6.353	-3.137	0.002
Year	0.009	0.003	2.690	0.007
1/8mile	**0.890**	0.017	53.829	0.000
1/4mile	**0.681**	0.017	40.372	0.000
1/2mile	**0.596**	0.014	41.939	0.000
3/4mile	**0.404**	0.015	27.415	0.000
1mile	**0.297**	0.014	21.109	0.000
1.25mile	**0.278**	0.014	19.768	0.000
1.5mile	**0.073**	0.015	4.959	0.000
1.75mile	-0.001	0.014	-0.073	0.942
Seattle	0.045	0.015	2.991	0.003
Tampa	0.063	0.023	2.706	0.007
n	50,593			
R^2-adjusted	0.110			
F-ratio	568.203			

Note: Significant distance band coefficients in bold.

Table 4
Regression Results of Annual Distribution of Jobs With Respect to LRT Station Distance Band, 2004-2011

Variable	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Constant	-3.246	-3.250	-3.250	-3.260	-3.268	-3.280	-3.306	-3.273
1/8mile	**0.763**	**0.802**	**0.796**	**0.786**	**0.790**	**0.809**	**0.820**	**0.884**
1/4mile	**0.657**	**0.649**	**0.649**	**0.668**	**0.647**	**0.640**	**0.638**	**0.690**
1/2mile	**0.393**	**0.383**	**0.378**	**0.380**	**0.361**	**1.690**	**0.362**	**0.416**
3/4mile	**0.227**	**0.220**	**0.224**	**0.239**	**0.219**	**0.351**	**0.224**	**0.259**
1mile	**0.161**	**0.166**	**0.164**	**0.161**	**0.142**	**0.208**	**0.161**	**0.182**
1.25mile	**0.123**	**0.129**	**0.109**	**0.124**	**0.101**	**0.153**	**0.127**	**0.136**
1.5mile	**0.066**	**0.056**	**0.056**	**0.069**	**0.043**	**0.107**	**0.074**	**0.082**
1.75mile	0.038	0.029	0.024	0.030	0.005	0.041	0.025	0.019
Dallas	-0.006	-0.016	-0.013	-0.018	0.634	0.026	0.031	0.134
Denver	0.620	0.622	0.621	0.596	-0.109	0.639	0.643	0.641
Houston	-0.112	-0.111	-0.134	-0.137	0.411	-0.099	-0.088	-0.044
Minneapolis	0.354	0.379	0.400	0.399	0.204	0.446	0.455	0.470
Phoenix	0.221	0.192	0.171	0.186	0.655	0.208	0.214	0.268
Charlotte	0.695	0.677	0.699	0.671	0.636	0.668	0.686	0.710
Portland	0.631	0.632	0.616	0.610	0.275	0.653	0.660	0.687
Sacramento	0.483	0.482	0.479	0.267	0.665	0.304	0.283	0.267
Salt Lake	0.704	0.721	0.697	0.628	0.049	0.673	0.694	0.667
San Diego	0.088	0.097	0.085	0.021	0.000	0.058	0.066	0.080
n	25,355	25,473	25,675	26,906	27,136	27,196	27,171	22,271
R^2-adjusted	0.160	0.162	0.164	0.157	0.157	0.157	0.154	0.152
F-ratio	269.468	273.892	279.981	279.114	297.959	282.909	276.066	223.123

Table 5
Regression Results of Annual Distribution of Jobs With Respect to BRT Station Distance Band, 2004-2011

Variable	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Constant	-1.621	-1.610	-1.620	-1.624	-1.613	-1.638	-1.652	-1.634
1/8mile	**0.487**	**0.471**	**0.490**	**0.503**	**0.490**	**0.521**	**0.512**	**0.479**
1/4mile	**0.156**	**0.144**	**0.133**	0.112	0.108	**0.144**	**0.134**	**0.149**
1/2mile	0.085	0.067	0.044	0.063	0.071	0.080	**0.057**	**0.049**
3/4mile	-0.051	-0.074	-0.066	-0.041	-0.056	-0.041	-0.033	-0.048
1mile	-0.154	-0.153	-0.149	-0.119	-0.131	-0.112	**-0.105**	**-0.102**
1.25mile	-0.030	-0.036	-0.035	-0.018	-0.025	-0.018	0.006	-0.018
1.5mile	-0.015	-0.024	-0.012	0.010	0.009	0.008	0.018	-0.017
Phoenix	-0.488	-0.470	-0.435	-0.049	-0.036	-0.029	-0.428	-0.444
LA	-0.844	-0.853	-0.841	-0.457	-0.457	-0.439	-0.711	-0.725
KC	0.805	0.793	0.805	-0.768	-0.770	-0.744	0.824	0.783
Las Vegas	-0.362	-0.367	-0.346	0.810	0.798	0.816	-0.289	-0.308
Cleveland	0.509	0.498	0.507	-0.345	-0.327	-0.308	0.520	0.476
Eugene	0.778	0.770	0.788	0.508	0.488	0.515	0.810	0.818
Pittsburgh	0.048	0.042	0.052	0.798	0.784	0.810	0.045	0.031
Salt Lake	0.281	0.275	0.299	0.042	0.042	0.050	0.310	0.294
N	14,644	14,670	14,701	15,064	15,052	15,067	15,068	15,011
R^2-adj	0.337	0.341	0.342	0.342	0.344	0.342	0.332	0.331
F-ratio	496.995	505.933	511.437	491.069	493.778	489.971	500.698	497.053

Table 6
Regression Results of Annual Distribution of Jobs With Respect to SCT Station Distance Band, 2004-2011

Variable	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Constant	-2.801	-2.811	-2.822	-2.860	-2.871	-2.868	-2.889	-2.850
1/8mile	**0.867**	**0.857**	**0.873**	**0.942**	**0.943**	**0.954**	**0.973**	**0.937**
1/4mile	**0.653**	**0.649**	**0.629**	**0.718**	**0.743**	**0.705**	**0.713**	**0.808**
1/2mile	**0.588**	**0.595**	**0.575**	**0.616**	**0.614**	**0.624**	**0.634**	**0.691**
3/4mile	**0.383**	**0.382**	**0.361**	**0.409**	**0.428**	**0.436**	**0.426**	**0.508**
1mile	**0.257**	**0.274**	**0.287**	**0.317**	**0.335**	**0.324**	**0.338**	**0.351**
1.25mile	**0.246**	**0.270**	**0.265**	**0.297**	**0.321**	**0.300**	**0.299**	**0.305**
1.5mile	0.028	0.044	0.054	0.078	0.128	0.112	0.112	0.068
1.75mile	-0.035	-0.016	-0.009	0.005	0.000	0.016	0.030	0.041
n	4,993	5038	5,127	5,156	5,195	5,181	5,279	4,644
R^2-adj	0.109	0.106	0.103	0.115	0.115	0.114	0.115	0.131
F-ratio	77.086	75.679	74.482	84.766	85.492	84.707	86.753	88.829

Table 11
Summary of Regression Results with respect to 1/8-, ¼- and ½-mile Distance-Bands for LRT, BRT and SCT Systems

LRT

Distance	2004	2005	2006	2007	2008	2009	2010	2011	Period
1/8mile	0.763	0.802	0.796	0.786	0.790	0.809	0.820	0.884	1.9%
1/4mile	0.657	0.649	0.649	0.668	0.647	0.640	0.638	0.690	0.6%
1/2mile	0.393	0.383	0.378	0.380	0.361	0.382	0.362	0.416	0.7%
Sum	1.813	1.834	1.823	1.834	1.798	1.831	1.820	1.990	1.2%

BRT

Distance	2004	2005	2006	2007	2008	2009	2010	2011	Period
1/8mile	0.487	0.471	0.490	0.503	0.490	0.521	0.512	0.479	-0.2%
1/4mile	0.156	0.144	0.133	0.112	0.108	0.144	0.134	0.149	-0.6%
1/2mile	0.085	0.067	0.044	0.063	0.071	0.080	0.057	0.049	-6.7%
Sum	0.728	0.682	0.667	0.678	0.669	0.745	0.703	0.677	-0.9%

SCT

Distance	2004	2005	2006	2007	2008	2009	2010	2011	Period
1/8mile	0.867	0.857	0.873	0.942	0.943	0.954	0.973	0.937	1.0%
1/4mile	0.653	0.649	0.629	0.718	0.743	0.705	0.713	0.808	2.7%
1/2mile	0.588	0.595	0.575	0.616	0.614	0.624	0.634	0.691	2.0%
Sum	2.108	2.101	2.077	2.276	2.300	2.283	2.320	2.436	1.8%