

ECONOMIC IMPACT STUDY



Los Angeles County Economic Development Corporation

THE CONSTRUCTION IMPACT OF METRO'S MEASURE R TRANSPORTATION PROJECTS 2009-2038

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This report was prepared by the Consulting Practice of the Los Angeles County Economic Development Corporation (LAEDC).

As the Southern California region's premier economic development organization, the mission of the LAEDC is to attract, retain and grow businesses and jobs in the regions of Los Angeles County, as well as to identify trends and to effect positive change on the local economy.

The LAEDC Consulting Practice offers custom research with expertise in water, transportation, the environment, infrastructure, economic impact studies, and regional industry analysis. Our goal is to support clients, issues and projects of significance, and to deliver long-term value to the quality of life in our region and state.

EXECUTIVE SUMMARY

The Los Angeles County Metropolitan Transportation Authority (Metro) has proposed a series of transportation improvement projects in Los Angeles County to be funded through tax revenues generated from the voter-approved Measure R increase in sales taxes.

The Consulting Practice of the Los Angeles Economic Development Corporation (LAEDC) has estimated the economic impact of \$34.7 billion of these construction projects. The total economic impacts consist of the one-time increases in total output (as measured by business revenues), employment and earnings in Southern California associated with the proposed construction activities over the next 30 years. All of the projects and most of the employment and economic activity will be in Los Angeles County; however, we have used the region defined by the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura to measure the impact of Metro's spending given the interconnectedness of this region's economic activity.

In addition to the economic impact of this construction, we have estimated the annual fiscal impacts at the county, state and national levels.

The exhibit below summarizes our findings.

Economic and Fiscal Impact of Metro Construction Projects		
	Project Total	Annual Average
Project spending (\$ millions)	\$ 34,702	\$ 1,157
Total Economic Impact		
Output (\$ millions)	\$ 68,775	\$ 2,292
Employment (jobs)	507,500	16,900
Earnings (\$ millions)	\$ 22,376	\$ 746
Total Fiscal Impact (\$ millions)		
Federal	\$ 6,586.1	\$ 219.5
State	2,304.8	76.8
County	271.4	9.0
Local	155.1	5.2

Sources: Metro; LAEDC
2008 dollars

Total spending, budgeted to exceed \$34.7 billion, will generate \$68.8 billion in economic output (measured by business revenues) in the five-county Southern California region, adding 507,500 jobs with earnings of \$22.4 billion over the thirty year period, or an annual average of 16,900 jobs with \$746 million in annual earnings.

Total tax revenues collected will exceed \$9.3 billion, or an annual average of \$310 million. Approximately 70 percent of the total, or \$6.6 billion, will be earned at the federal level. More than \$2.3 billion in state taxes will be paid over the thirty year period.

MEASURE R TRANSPORTATION PROJECTS

Budgeted Spending

The Los Angeles County Metropolitan Transportation Authority (Metro) has proposed a series of transportation improvement projects in Los Angeles County to be funded through tax revenues generated from the voter-approved Measure R increase in sales taxes. These projects are broadly categorized into two groups: highway and freeway projects, which also include grade separations and sound wall construction; and transit corridor construction. The overall budget for the projects included here is \$34.7 billion over thirty years.¹

The amounts by budget category are shown in the exhibit below.

Exhibit 1 Metro Transportation Improvement Construction Projects Program Budget by Category		
	\$ millions	% of total
Highway and freeway improvements, including grade separation and sound wall construction	\$ 22,906.2	66.0
<i>Of which: Right-of-way acquisition</i>	<i>2,836.7</i>	
Transit corridor construction	11,795.8	34.0
<i>Of which: Right-of-way acquisition</i>	<i>1,56.3</i>	
<i>Vehicle purchases</i>	<i>985.8</i>	
Total Budget	\$ 34,702.0	100.0

Source: Metro
2008 dollars

Approximately 66 percent of the total budget consists of highway and freeway improvements, and 34 percent for transit corridor extensions and improvements.

Excluded Spending

Right-of-way acquisition is excluded from economic impact analysis since this is an exchange of assets and does not generate economic activity. Similarly, since the purchase of vehicles is expected to occur outside of the five-county Southern California region, this spending is also excluded. Our methodology is fully described in the Appendix. Dollar values are expressed in 2008 dollars throughout this report.

¹ In June 2008, the LAEDC estimated 210,000 jobs would be created by Measure R spending. That estimate was based on a preliminary construction budget of \$16.5 billion. Metro has since revised its long-term spending estimates. The current analysis is based on expenditures that are more than double the original budget amount. The economic and fiscal impacts are therefore much larger than our earlier report estimated.

Economic Impact

The exhibit below summarizes the economic impact in the five-county Southern California region due to the construction activity.

Exhibit 2				
Metro Transportation Improvement Construction Projects				
Economic Impact by Category				
	Highway *	Transit	Total **	Annual Average
Project Spending				
Budgeted spending (\$ millions)	\$ 22,906.2	\$ 11,795.8	\$ 34,702.0	\$ 1,156.7
<i>Less: Excluded spending</i>	<i>2,836.7</i>	<i>2,042.1</i>	<i>4,878.8</i>	<i>162.6</i>
Net budgeted spending (\$ millions)	20,069.4	9,753.7	29,823.2	994.1
Economic Impact				
Output (\$ millions)	\$ 46,282	\$ 22,493	\$ 68,775	\$ 2,292
Employment (jobs)	341,500	166,000	507,500	16,900
Earnings (\$ millions)	\$ 15,058	\$ 7,318	\$ 22,376	\$ 746

* Includes grade separations and sound wall construction

** May not sum due to rounding

Sources: Metro; LAEDC

2008 dollars

During the 30-year construction period, the net budgeted spending related to the completion of Metro's proposed transportation projects, after deducting spending on right-of-way acquisition and vehicle purchases, is \$29.8 billion. Together, this spending will generate economic output (measured by business revenues) of \$68.8 billion in the five-county regions of Southern California (in 2008 dollars). The projects will create over half a million part-time and full-time jobs with total earnings of \$22.4 billion, or an annual average of 16,900 jobs with \$746 million in annual earnings.

The total economic output associated with highway and freeway projects is estimated to be \$46.3 billion. These projects include building new freeways or highways, expanding capacity on freeways and interchanges, and the construction of grade separations along major goods movement corridors and sound wall barriers. Over the 30-year period, the total number of jobs related to these projects will be 341,500 with \$15.1 billion in total salaries, or an annual average of 11,380 jobs with \$502 million in earnings.

Transit projects, including the construction of light and heavy rail lines, subway extensions, and the construction of bus rapid transit lines, will generate \$22.5 billion in total (direct, indirect and induced) output for the Southern California regional economy over the course of 30 years. Work on these projects will create 166,000 total jobs with over \$7.3 billion in total earnings. On average, these projects will create 5,530 jobs with earnings of \$244 million annually.

Industry Breakdown

Total output, employment and earnings impacts are disaggregated by industry sector in the exhibit below. This allows an estimation and industry identification of “follow-on” jobs and business revenues. The values in the exhibit should be interpreted as illustrative of the industry effects rather than precise given model and data limitations.

Exhibit 3			
Metro Transportation Improvement Construction Projects			
Economic Impact by Industry			
Industry	Output (\$ millions)	Jobs	Earnings (\$ millions)
Agriculture	\$ 239.4	2,021	\$ 47.5
Mining	237.3	470	51.9
Utilities	1,055.8	1,507	183.8
Construction	26,838.7	218,867	10,534.5
Manufacturing	9,761.1	33,314	1,727.6
Wholesale trade	2,613.8	12,887	836.0
Retail trade	3,929.5	52,728	1,285.9
Transportation and warehousing	1,748.6	11,674	563.7
Information	1,668.0	6,385	406.3
Finance and insurance	3,622.8	13,775	975.5
Real estate	4,752.5	10,292	319.9
Professional, scientific and technical services	3,488.3	27,875	1,589.8
Management of companies	985.3	5,348	511.6
Administrative and waste management	1,386.7	20,887	609.3
Education services	459.4	7,063	208.2
Health care and social assistance	2,577.1	26,981	1,249.5
Arts, entertainment and recreation	442.7	7,491	182.3
Accommodations and food services	1,410.7	28,703	543.0
Other services	1,557.0	15,760	512.7
Households	n/a	3,509	37.3
Total *	\$ 68,775	507,500	\$ 22,376

* May not sum due to rounding
 Source: LAEDC
 2008 dollars

Much of the impact will occur in the construction industry, with almost 40 percent of the total (direct, indirect and induced) output earned by firms in the industry and over 43 percent of the jobs generated. However, other industries are also significantly impacted, including: manufacturing; real estate; retail trade; accommodation and food services; professional and scientific services; finance and insurance; and health care. Each of these industries will see an increase in business revenues and in the number of jobs as the effects of the increase in construction activity due to the Metro's projects ripple through the regional economy.

To put the job creation into context, we can compare its potential contribution to current employment in the region in the construction industry. According to the California Employment Development Department, in 2007 (the most recent year for which the data is available) employment in the construction industry in Southern California was 391,464 persons, and there were 6.3 million people in the total workforce.

The total estimated job creation related to the projects is 507,500 jobs over a thirty-year period, or an average of approximately 16,900 jobs per year in Southern California. The annual average amounts to approximately 0.27 percent of the total workforce in Southern California, which seems small because of the vast size of the workforce. However, the magnitude of this job creation can be better appreciated when compared to some of the largest private sector employers in Los Angeles County; for example, Northrop Grumman, with 20,500 employees in 2009; Bank of America, with 17,442 employees; and the Boeing Company, with 15,250 employees.

In the construction industry alone, job creation is expected to be 218,867 over the project period, or 7,296 per year. This amounts to 1.9 percent of the construction workforce in Southern California annually.

Geographic Distribution of Job Creation

We estimated the employment that will be generated by spending on Measure R projects within the five-county Southern California region, which includes the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura. Although the projects are physically located in Los Angeles County, the interconnected nature of the regional economy – most visible in commute patterns that cross county borders – means that the projects will generate employment across the region.

We distributed the employment created by Measure R spending proportional to each county's share of regional employment within 20 industry sectors. The distribution of employment created by individual projects will depend on where the project spending and hiring takes place. In the absence of detailed spending data for each project – many of which are not scheduled to start for a decade or more – this approach is a reasonable approximation of the likely impacts at the county level.

The Exhibit 4, on the next page, shows the likely employment distribution by county based on all Measure R projects. The values in these Exhibits should be interpreted as illustrative of the industry effects by county rather than precise given model and data limitations.

Exhibit 4
Employment Generation by Measure R Spending
Industry Breakdown by County

Industry	Los Angeles	Orange	San Bernardino	Riverside	Ventura
Agriculture	260	180	510	110	960
Mining	280	40	30	40	70
Utilities	830	250	110	260	60
Construction	92,770	57,780	34,900	22,910	10,500
Manufacturing	19,320	7,680	2,130	2,590	1,590
Wholesale trade	7,610	2,980	690	1,180	430
Retail trade	28,280	10,540	5,710	5,690	2,500
Transportation and warehousing	7,140	1,290	910	2,080	270
Information	5,160	730	190	170	130
Finance and insurance	7,830	3,800	620	780	750
Real estate	5,830	2,730	730	650	350
Professional, scientific and technical	16,990	7,330	1,300	1,240	1,010
Management of companies	3,140	1,430	190	350	240
Administrative & waste	11,030	5,380	1,460	2,260	750
Education services	4,990	1,160	280	410	220
Health care and social assistance	16,060	5,140	2,110	2,600	1,080
Arts, entertainment and recreation	4,130	2,120	600	340	300
Accommodation and food services	15,480	6,580	2,950	2,440	1,250
Other services	10,930	2,110	1,010	1,250	450
Households	2,050	760	310	230	170
Total *	292,920	109,040	39,750	43,600	22,240

* May not sum due to rounding
 Source: LAEDC
 2008 dollars

Fiscal Impact

The proposed transportation projects will generate significant state, local and federal tax revenues over the 30-year construction period. Income taxes will be collected on the earnings of workers, both direct and indirect, as are unemployment insurance and disability insurance taxes. Sales taxes will be generated on the purchases of materials by the construction contractors and of goods and services by all the workers whose earnings are sustained by the transportation projects. The estimated tax revenues by level of government are summarized in the Exhibit on the following page.

We estimate that direct, indirect and induced workers will pay \$3.2 billion in federal income taxes, \$2.8 billion in social security taxes and \$940 million in California state income taxes, together comprising almost three-quarters of all tax revenues. Sales taxes generated on all purchase will exceed \$1.5 billion, more than sixteen percent of the total fiscal impact.

All together, at least \$9.3 billion in tax revenues will be generated in relation to the transportation construction projects. Approximately 70 percent of this will be earned at the federal level, 25 percent at the state level, and the remainder shared between county and local governments. Our estimates of total tax revenues generated by construction-related activities are low, since due to data limitations we do not account for various federal and state taxes such as fuel taxes, business gross receipts taxes, and corporate income taxes; nor do we account for local permits and fees payable on the projects, which would be substantial for projects of this size.

Exhibit 5			
Fiscal Impact of Transportation Improvement Projects			
	Highway	Transit	Total *
Tax Revenue by Type of Tax (\$ millions)			
Federal income tax	\$ 2,128.2	\$ 1,034.3	\$ 3,162.6
Social security	1,867.2	907.5	2,774.6
Sales tax	958.5	553.4	1,511.8
State income tax	632.4	307.4	939.8
Medicare	436.7	212.2	648.9
CA SUI and SDI	188.1	91.4	279.5
Tax Revenue by Level of Government (\$ millions)			
Federal	\$ 4,432.1	\$ 2,154.0	\$ 6,586.1
State	1,508.7	796.1	2,304.8
County	172.0	99.3	271.4
Local government (cities)	98.3	56.8	155.1
Total *	\$ 6,211.1	\$ 3,106.2	\$ 9,317.3
Annual Average	\$ 207.0	\$ 103.5	\$ 310.6

* May not sum due to rounding
Sources: Metro; LAEDC
2008 dollars

Results by Fiscal Year

Spending is projected to take place incrementally over the thirty-year period. The economic and fiscal impacts will be spread out over the period in relationship to each fiscal year's spending. Exhibit 6 on the following page shows the estimated economic impact by fiscal year, according to the budgeted spending.

Similarly, Exhibit 7 on page 9 shows the annual fiscal impact for each level of government.

Separate fiscal year Exhibits for the highway and freeway projects and for the transit projects can be found in the Appendix.

Exhibit 6					
Metro Transportation Improvement Construction Projects					
Economic Impact by Fiscal Year					
Fiscal Year	Project Spending (\$ millions)		Economic Impact		
	Budgeted Spending	Net Spending*	Output (\$ millions)	Employment	Earnings (\$ millions)
2009-2010	\$ 391.6	\$ 391.6	\$ 903	6,700	\$ 294
2010-2011	775.4	657.7	1,517	11,200	493
2011-2012	875.3	699.5	1,613	11,900	525
2012-2013	1,418.2	921.5	2,125	15,700	691
2013-2014	1,685.8	1,232.0	2,841	21,000	924
2014-2015	2,234.9	1,733.4	3,997	29,500	1,301
2015-2016	2,304.4	1,719.3	3,965	29,300	1,290
2016-2017	2,255.2	1,843.2	4,251	31,400	1,383
2017-2018	2,091.7	1,940.1	4,474	33,000	1,456
2018-2019	1,383.3	1,332.6	3,073	22,700	1,000
2019-2020	1,850.1	1,606.3	3,704	27,300	1,205
2020-2021	1,755.5	1,438.8	3,318	24,500	1,080
2021-2022	1,287.5	1,083.6	2,499	18,400	813
2022-2023	1,348.2	1,171.4	2,701	19,900	879
2023-2024	1,449.3	1,436.4	3,312	24,400	1,078
2024-2025	1,366.0	1,323.8	3,053	22,500	993
2025-2026	1,200.8	1,139.5	2,628	19,400	855
2026-2027	793.9	712.8	1,644	12,100	535
2027-2028	966.1	886.9	2,045	15,100	665
2028-2029	877.9	687.9	1,586	11,700	516
2029-2030	757.0	639.4	1,474	10,900	480
2030-2031	919.1	727.4	1,678	12,400	546
2031-2032	722.6	675.3	1,557	11,500	507
2032-2033	810.4	770.7	1,777	13,100	578
2033-2034	767.1	720.4	1,661	12,300	541
2034-2035	763.5	680.7	1,570	11,600	511
2035-2036	562.7	562.7	1,298	9,600	422
2036-2037	561.3	561.3	1,294	9,600	421
2037-2038	331.1	331.1	764	5,600	248
2038-2039	196.0	196.0	452	3,300	147
Total **	\$ 34,702	\$ 29,823	\$ 68,775	507,500	\$ 22,376

* Excludes right-of-way acquisition and vehicle purchases

** May not sum due to rounding

Sources: Metro; LAEDC

2008 dollars

Exhibit 7
Metro Transportation Improvement Construction Projects
Fiscal Impact by Fiscal Year

Fiscal Year	Fiscal Impact (\$ millions)				
	Federal	State	County	Cities	Total *
2009-2010	\$ 86.5	\$ 29.4	\$ 3.4	\$ 1.9	\$ 121.2
2010-2011	145.2	49.4	5.6	3.2	203.5
2011-2012	154.5	54.7	6.5	3.7	219.4
2012-2013	203.5	76.6	9.7	5.6	295.4
2013-2014	272.1	103.2	13.2	7.5	396.0
2014-2015	382.8	141.5	17.6	10.1	552.0
2015-2016	379.7	137.9	16.9	9.7	544.1
2016-2017	407.1	140.0	16.1	9.2	572.4
2017-2018	428.4	146.4	16.8	9.6	601.3
2018-2019	294.3	101.8	11.8	6.8	414.7
2019-2020	354.7	122.6	14.2	8.1	499.7
2020-2021	317.8	110.4	12.9	7.4	448.4
2021-2022	239.3	83.5	9.8	5.6	338.2
2022-2023	258.7	88.7	10.2	5.8	363.4
2023-2024	317.2	108.5	12.4	7.1	445.3
2024-2025	292.4	100.8	11.7	6.7	411.5
2025-2026	251.6	87.8	10.3	5.9	355.6
2026-2027	157.4	55.8	6.7	3.8	223.7
2027-2028	195.9	68.4	8.0	4.6	276.9
2028-2029	151.9	52.7	6.2	3.5	214.3
2029-2030	141.2	48.1	5.5	3.1	197.9
2030-2031	160.6	55.3	6.4	3.7	226.0
2031-2032	149.1	52.0	6.1	3.5	210.8
2032-2033	170.2	59.2	6.9	4.0	240.3
2033-2034	159.1	54.8	6.3	3.6	223.8
2034-2035	150.3	51.2	5.8	3.3	210.7
2035-2036	124.3	42.3	4.8	2.8	174.1
2036-2037	124.0	42.2	4.8	2.7	173.7
2037-2038	73.1	24.9	2.8	1.6	102.5
2038-2039	43.3	14.7	1.7	1.0	60.7
Total *	\$ 6,586	\$ 2,305	\$ 271	\$ 155	\$ 9,317

* May not sum due to rounding
Source: LAEDC
2008 dollars

APPENDIX

Methodology

The total estimated economic impact includes direct, indirect and induced effects. **Direct activity** includes the materials purchased and the employees hired by Metro and its contractors during the project construction period. Here we account for construction workers which have been added due to the project and the materials purchased for the project. **Indirect effects** are those which stem from the employment and business revenues motivated by the purchases made by Metro and its contractors. For example, indirect jobs are sustained by the suppliers of the office supplies and insurance purchased by contractors hired for the construction. **Induced effects** are those generated by the spending of employees whose wages are sustained by both direct and indirect spending.

We used data supplied by Metro for initial spending, and estimated the direct, indirect and induced effects using multipliers from the Regional Input-Output Modeling System (RIMS II) developed by the Bureau of Economic Analysis at the U.S. Department of Commerce. In all cases, we have proceeded as if the spending will take place within a single year, as is customary when using RIMS II multipliers, although many of the proposed projects are anticipated to last several years. For long-term projects such as the multi-year Metro transportation improvement projects, the reader is cautioned to note that the modeling system does not account for changes in prices and wages over time. Thus our earnings and output estimates are not adjusted for future inflation, but are reported in constant (2008) dollars.

The estimated economic impacts are based on spending within the five-county Southern California region, which includes the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura. This region is chosen as most representative of the region most affected by Metro's projects. Although most of the employment and economic activity will be in Los Angeles County, we expect that the workforce, the materials purchased, and the business that will be impacted by Metro's spending are located throughout the five-county Southern California region.

Data limitations prevent us from estimating how much of the overall construction spending will take place outside of the region; for example, construction materials might be *purchased* locally but be manufactured elsewhere. In some instances, spending related to a project may occur in neighboring counties such as Santa Barbara or Imperial and thus generate *additional* economic impact that spills over from those neighboring counties. This spillover is not captured by our five-county analysis.

The budget category denoted as right-of-way acquisition is excluded from economic impact analysis since this is an exchange of assets. Similarly, since the purchase of vehicles is expected to occur outside of the five-county Southern California region, this spending is also excluded.

Job creation (or earnings) estimates are based on national average relationships between output and employment (or earnings). Where such relationships at the regional level differ from the national relationships, the impacts may be marginally understated or overstated. Job creation estimates are measured on a job-count basis for both wage-and-salary workers and proprietors regardless of the number of hours worked.

Supplemental Exhibits

Exhibit A-1					
Employment Generation by Measure R Highway Spending					
Industry Breakdown by County					
Industry	Los Angeles	Orange	San Bernardino	Riverside	Ventura
Agriculture	180	120	340	70	640
Mining	190	30	20	30	50
Utilities	560	170	70	170	40
Construction	62,430	38,880	23,490	15,420	7,070
Manufacturing	13,000	5,170	1,440	1,740	1,070
Wholesale trade	5,120	2,010	470	790	290
Retail trade	19,030	7,100	3,840	3,830	1,680
Transportation and warehousing	4,800	870	610	1,400	180
Information	3,470	490	130	120	90
Finance and insurance	5,270	2,550	420	530	510
Real estate	3,920	1,840	490	440	230
Professional, scientific and technical	11,440	4,930	870	840	680
Management of companies	2,110	960	130	240	160
Administrative & waste	7,420	3,620	980	1,520	510
Education services	3,360	780	190	280	150
Health care and social assistance	10,810	3,460	1,420	1,750	730
Arts, entertainment and recreation	2,780	1,420	400	230	200
Accommodation and food services	10,420	4,430	1,990	1,640	840
Other services	7,360	1,420	680	840	300
Households	1,380	510	210	160	110
Total *	197,120	73,380	26,750	29,340	14,960

* May not sum due to rounding
 Source: LAEDC
 2008 dollars

Exhibit A-2
Employment Generation by Measure R Transit Spending
Industry Breakdown by County

Industry	Los Angeles	Orange	San Bernardino	Riverside	Ventura
Agriculture	90	60	170	40	310
Mining	90	10	10	10	20
Utilities	270	80	40	80	20
Construction	30,340	18,900	11,410	7,490	3,440
Manufacturing	6,320	2,510	700	850	520
Wholesale trade	2,490	980	230	380	140
Retail trade	9,250	3,450	1,870	1,860	820
Transportation and warehousing	2,330	420	300	680	90
Information	1,690	240	60	60	40
Finance and insurance	2,560	1,240	200	260	250
Real estate	1,910	890	240	210	110
Professional, scientific and technical	5,560	2,400	420	410	330
Management of companies	1,030	470	60	110	80
Administrative & waste	3,610	1,760	480	740	250
Education services	1,630	380	90	130	70
Health care and social assistance	5,250	1,680	690	850	350
Arts, entertainment and recreation	1,350	690	190	110	100
Accommodation and food services	5,060	2,150	970	800	410
Other services	3,580	690	330	410	150
Households	670	250	100	80	50
Total *	95,800	35,660	13,000	14,260	7,270

* May not sum due to rounding

Source: LAEDC

2008 dollars

Exhibit A-3 Highway and Freeway Improvement Projects Economic Impact by Fiscal Year					
Fiscal Year	Project Spending (\$ millions)		Economic Impact		
	Budgeted Spending	Net Spending*	Output (\$ millions)	Employment	Earnings (\$ millions)
2009-2010	\$ 168.8	\$ 168.8	\$ 389	2,873	\$ 127
2010-2011	339.0	305.5	705	5,199	229
2011-2012	414.6	375.7	866	6,393	282
2012-2013	567.8	421.8	973	7,178	316
2013-2014	696.3	520.0	1,199	8,850	390
2014-2015	1,184.6	867.1	2,000	14,757	651
2015-2016	1,421.8	986.5	2,275	16,788	740
2016-2017	1,505.9	1,120.9	2,585	19,076	841
2017-2018	1,605.1	1,468.0	3,385	24,983	1,101
2018-2019	1,285.5	1,269.5	2,928	21,605	953
2019-2020	1,650.3	1,508.8	3,479	25,677	1,132
2020-2021	1,462.7	1,277.9	2,947	21,748	959
2021-2022	1,150.3	978.4	2,256	16,650	734
2022-2023	1,121.7	959.3	2,212	16,325	720
2023-2024	1,126.2	1,126.2	2,597	19,166	845
2024-2025	1,011.7	1,011.7	2,333	17,217	759
2025-2026	732.0	728.4	1,680	12,397	547
2026-2027	465.0	457.9	1,056	7,792	344
2027-2028	678.0	647.1	1,492	11,013	486
2028-2029	599.6	466.5	1,076	7,939	350
2029-2030	458.0	344.1	793	5,855	258
2030-2031	459.5	286.8	661	4,881	215
2031-2032	365.0	361.4	834	6,151	271
2032-2033	461.6	454.5	1,048	7,735	341
2033-2034	445.1	432.7	998	7,363	325
2034-2035	546.0	539.9	1,245	9,188	405
2035-2036	346.0	346.0	798	5,888	260
2036-2037	246.0	246.0	567	4,186	185
2037-2038	196.0	196.0	452	3,336	147
2038-2039	196.0	196.0	452	3,336	147
Total **	\$ 22,906	\$ 20,069	\$ 46,282	341,500	\$ 15,058

* Excludes right-of-way acquisition and vehicle purchases

** May not sum due to rounding

Sources: Metro; LAEDC

2008 dollars

Exhibit A-4 Highway and Freeway Improvement Projects Fiscal Impact by Fiscal Year					
Fiscal Year	Fiscal Impact (\$ millions)				
	Federal	State	County	Cities	Total *
2009-2010	\$ 37.3	\$ 12.7	\$ 1.4	\$ 0.8	\$ 52.2
2010-2011	67.5	23.0	2.6	1.5	94.5
2011-2012	83.0	28.2	3.2	1.8	116.3
2012-2013	93.1	31.7	3.6	2.1	130.5
2013-2014	114.8	39.1	4.5	2.5	160.9
2014-2015	191.5	65.2	7.4	4.2	268.4
2015-2016	217.9	74.2	8.5	4.8	305.3
2016-2017	247.5	84.3	9.6	5.5	346.9
2017-2018	324.2	110.4	12.6	7.2	454.3
2018-2019	280.4	95.4	10.9	6.2	392.9
2019-2020	333.2	113.4	12.9	7.4	467.0
2020-2021	282.2	96.1	11.0	6.3	395.5
2021-2022	216.1	73.5	8.4	4.8	302.8
2022-2023	211.8	72.1	8.2	4.7	296.9
2023-2024	248.7	84.7	9.7	5.5	348.5
2024-2025	223.4	76.1	8.7	5.0	313.1
2025-2026	160.9	54.8	6.2	3.6	225.4
2026-2027	101.1	34.4	3.9	2.2	141.7
2027-2028	142.9	48.6	5.5	3.2	200.3
2028-2029	103.0	35.1	4.0	2.3	144.4
2029-2030	76.0	25.9	2.9	1.7	106.5
2030-2031	63.3	21.6	2.5	1.4	88.8
2031-2032	79.8	27.2	3.1	1.8	111.9
2032-2033	100.4	34.2	3.9	2.2	140.7
2033-2034	95.5	32.5	3.7	2.1	133.9
2034-2035	119.2	40.6	4.6	2.6	167.1
2035-2036	76.4	26.0	3.0	1.7	107.1
2036-2037	54.3	18.5	2.1	1.2	76.1
2037-2038	43.3	14.7	1.7	1.0	60.7
2038-2039	43.3	14.7	1.7	1.0	60.7
Total *	\$ 4,432	\$ 1,509	\$ 172	\$ 98	\$ 6,211

* May not sum due to rounding
 Source: LAEDC
 2008 dollars

Exhibit A-5 Transit Corridor Construction Projects Economic Impact by Fiscal Year					
Fiscal Year	Project Spending (\$ millions)		Economic Impact		
	Budgeted Spending	Net Spending*	Output (\$ millions)	Employment	Earnings (\$ millions)
2009-2010	\$ 222.7	\$ 222.7	\$ 514	3,791	\$ 167
2010-2011	436.4	352.2	812	5,993	264
2011-2012	460.7	323.9	747	5,511	243
2012-2013	850.4	499.8	1,153	8,505	375
2013-2014	989.5	712.0	1,642	12,116	534
2014-2015	1,050.3	866.3	1,998	14,743	650
2015-2016	882.6	732.8	1,690	12,470	550
2016-2017	749.3	722.3	1,666	12,293	542
2017-2018	486.6	472.0	1,089	8,033	354
2018-2019	97.8	63.0	145	1,073	47
2019-2020	199.8	97.4	225	1,658	73
2020-2021	292.8	160.9	371	2,739	121
2021-2022	137.2	105.2	243	1,790	79
2022-2023	226.5	212.1	489	3,610	159
2023-2024	323.1	310.2	715	5,279	233
2024-2025	354.3	312.1	720	5,312	234
2025-2026	468.8	411.0	948	6,995	308
2026-2027	328.9	254.9	588	4,339	191
2027-2028	288.1	239.8	553	4,080	180
2028-2029	278.3	221.4	511	3,768	166
2029-2030	299.0	295.3	681	5,026	222
2030-2031	459.6	440.6	1,016	7,499	331
2031-2032	357.6	313.9	724	5,341	235
2032-2033	348.8	316.2	729	5,382	237
2033-2034	322.0	287.7	664	4,897	216
2034-2035	217.5	140.8	325	2,396	106
2035-2036	216.7	216.7	500	3,687	163
2036-2037	315.3	315.3	727	5,365	237
2037-2038	135.1	135.1	312	2,299	101
2038-2039	-	-	-	0	-
Total **	\$ 11,796	\$ 9,754	\$ 22,493	166,000	\$ 7,318

* Excludes right-of-way acquisition and vehicle purchases

** May not sum due to rounding

Sources: Metro; LAEDC

2008 dollars

Exhibit A-6 Transit Corridor Construction Projects Fiscal Impact by Fiscal Year					
Fiscal Year	Fiscal Impact (\$ millions)				
	Federal	State	County	Cities	Total *
2009-2010	\$ 49.2	\$ 16.7	\$ 1.9	\$ 1.1	\$ 68.9
2010-2011	77.8	26.5	3.0	1.7	109.0
2011-2012	71.5	26.4	3.3	1.9	103.1
2012-2013	110.4	44.9	6.1	3.5	164.9
2013-2014	157.2	64.1	8.8	5.0	235.1
2014-2015	191.3	76.3	10.2	5.8	283.6
2015-2016	161.8	63.7	8.4	4.8	238.8
2016-2017	159.5	55.7	6.5	3.7	225.5
2017-2018	104.2	36.1	4.2	2.4	146.9
2018-2019	13.9	6.4	0.9	0.5	21.8
2019-2020	21.5	9.2	1.3	0.7	32.8
2020-2021	35.5	14.3	1.9	1.1	52.9
2021-2022	23.2	10.0	1.4	0.8	35.4
2022-2023	46.9	16.5	2.0	1.1	66.5
2023-2024	68.5	23.8	2.8	1.6	96.7
2024-2025	68.9	24.8	3.0	1.7	98.4
2025-2026	90.8	33.0	4.0	2.3	130.1
2026-2027	56.3	21.4	2.7	1.6	82.0
2027-2028	52.9	19.8	2.5	1.4	76.6
2028-2029	48.9	17.7	2.2	1.2	69.9
2029-2030	65.2	22.2	2.5	1.5	91.5
2030-2031	97.3	33.8	3.9	2.2	137.3
2031-2032	69.3	24.9	3.0	1.7	98.9
2032-2033	69.8	25.0	3.0	1.7	99.7
2033-2034	63.5	22.3	2.6	1.5	89.9
2034-2035	31.1	10.6	1.2	0.7	43.6
2035-2036	47.9	16.3	1.9	1.1	67.1
2036-2037	69.6	23.7	2.7	1.5	97.6
2037-2038	29.8	10.2	1.2	0.7	41.8
2038-2039	-	-	-	-	-
Total *	\$ 2,154	\$ 796	\$ 99	\$ 57	\$ 3,106

* May not sum due to rounding
Source: LAEDC
2008 dollars