bae urban economics

Socio-Economic Impact Study of Proposed Regulation 14, Rule 1, Bay Area Commuter Benefits Program

Submitted to: Bay Area Air Quality Management District

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EXECUTIVE SUMMARY

Description of Proposed Rule

Senate Bill 1339, signed into law in fall 2012, authorizes the Bay Area Air Quality Management District (Air District or BAAQMD) and the Metropolitan Transportation Commission (MTC) to adopt and implement a Bay Area Commuter Benefits Program (Program) on a pilot basis through the end of year 2016. A proposed new rule (Regulation 14, Rule 1) has been developed to serve as the foundation for the Program. The proposed rule ("the Rule") will be presented for review and approval by the governing boards of both the Air District and MTC in early 2014.

If approved, the Program would require any employer with 50 or more full-time employees in the Bay Area to offer one of four commuter benefit options to its employees. The proposed rule defines a "full-time employee" as any employee who works an average of 30 or more hours per week. An employer that is subject to the Rule (by virtue of having 50 or more full-time employees in the Bay Area) would be required to offer its commuter benefit to all employees who work an average of 20 or more hours per week.

The four commuter benefit options that employers would choose among are as follows:

Option 1 - Pretax option: Consistent with Section 132(f) of Internal Revenue Code, allow employees to exclude their transit or vanpool costs from taxable wages.

Option 2 - Employer-paid benefit: The employer provides a subsidy to offset the cost of commuting via public transit or by vanpool.

Option 3 - Employer-provided transportation: Transportation furnished by the employer at no or low cost to the employee using a vanpool or bus, or similar multi-passenger vehicle operated by or for the employer.

Option 4 - Alternative commuter benefit: The Air District/MTC may approve an alternative commuter benefit proposed by the employer that would provide at least the same reduction in single-occupant vehicle trips (or vehicle emissions) as any of the three options above.

Many Bay Area employers already offer one or more of these commuter benefits to their employees; these employers that already provide commuter benefits are expected to incur minimal administrative costs to comply with Program reporting requirements. An employer that does not currently offer any of the commuter benefits described above would need to select one of the benefits to offer to its employees. The employer would incur costs to do so.

One unusual factor in implementation of this rule, however, is that in the case of Option 1, employers may be able to save on payroll taxes; this could partially or completely offset compliance costs, or even result in a net benefit for employers implementing the Rule. Employees would also see potential tax savings as a result of the Program,[1] resulting in an increase in after-tax income, leading to more potential consumer spending in the region. In addition to direct savings in payroll taxes for employers and income taxes for employees, the Program is expected to result in a variety of positive outcomes, such as helping employers to recruit and retain employees, reducing traffic peak period congestion on Bay Area roadways, reducing air pollution and protecting public health, and reducing emissions of greenhouse gases. These outcomes may also provide indirect economic benefit to the region; however, this study does not attempt to quantify the economic value associated with these outcomes.

Socio-Economic Impacts

In order to estimate the economic impacts of enacting Rule 14-1 on the affected industries, MTC provided BAE with a database of all the affected work sites, as well as a database of all the firms represented in the dataset, some of which are headquartered outside the Bay Area. The two dataset were derived from Dun & Bradstreet data obtained by MTC for firms with 50 or more employees in the Bay Area. BAE then linked these two datasets so it was possible to provide data by site or by firm. Since the impacts are spread across all sectors of the economy, BAE completed its analysis on the basis of major sectors of the economy as indicated by two-digit NAICS code. This report compares the annualized compliance costs for each industry with its 10-year average profit ratio. The analysis uses data from the Air District, MTC, the Internal Revenue Service, and Dun & Bradstreet.

Economic Profile of Affected Industries

In total, there are approximately 33,000 work sites estimated to be impacted by the requirements of the Rule, with 2,453,198 employees in the Bay Area representing approximately three-fourths of all employees in the region.[2] Based on estimates derived from

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[1] Employees would receive direct tax savings in response to Option 1. In addition, the IRS treats employer-provided subsidies for transit or vanpool fares (Option 2) and employer-provided transportation (Option 3) in a "commuter highway vehicle" as "qualified transportation fringe benefits," meaning that these commuter benefits are tax-free to the employee.

[2] Note that this compares Dun & Bradstreet data for the affected industries with overall employment data from the CA Employment Development Department (EDD); there may be differences in enumeration such that this proportion should be considered a rough estimate.

the Dun & Bradstreet data, the affected work sites have estimated annual sales ranging up to approximately $21 billion for the highest revenue-generating work site,[3] and employment ranging from one to 10,000 employees. It should be noted that a number of work sites affected by the Rule are in the public sector, and do not show revenues in the Dun & Bradstreet database. Revenue information is also missing for a number of the private sector employers.

Economic Impacts on Affected Industries

In order to determine the impacts of the proposed Program on the firms covered by the Rule, the analysis here compares annualized compliance costs to annual profits. The analysis then calculates the compliance costs as a percentage of profits to determine the level of impact. The Air District uses the Air Resource Board's 10 percent threshold as a proxy for burden. Annualized compliance costs resulting in profit losses of 10 percent or more indicate that the proposed compliance measure has the potential for significant adverse economic impacts. Since there are far too many firms to reasonably assess impacts on a firm-by-firm basis, this analysis was done in three parts.

1. Overall Sectoral Impact on Profits

Overall sectoral compliance costs are compared to the profit margins by sector derived from IRS data, to see how particular sectors fare with respect to the 10 percent burden threshold. This analysis found that the share of annual profits by sector potentially affected by the Program is insignificant across all sectors. In every sector compliance costs were less than one-tenth of one percent of annual profit.

2. Impact on Smaller Firms by Sector

Compliance costs may be higher on a relative basis for small employers (as discussed in "Compliance Costs" section below). Therefore, we performed an analysis that was limited to firms with less than 75 employees to ascertain if there would be adverse impacts. While the proportion of annual profits is more than for the sectors overall, the highest reduction in annual profit is still estimated to be only 0.054 percent of profits, well below the 10 percent threshold.

3. Worst-Case Scenario by Sector

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[3] Revenue has been calculated based on revenue per employee firm-wide applied on a per employee basis to Bay Area work sites.

Since some costs are fixed regardless of firm size, the greatest impacts would be likely fall on the firms with the fewest employees, and likely the lowest revenues. As a “worst case” scenario, estimated compliance costs are estimated for a hypothetical firm of 50 Bay Area employees in each major sector, assuming no employee participation (and thus no payroll tax savings to the employer). These costs are compared with estimated average revenues for that sector as generated on a per-employee basis. Even under this scenario, the loss of profit is under one percent across all sectors, still far below the 10 percent ARB threshold.

Regional Employment, Indirect, and Induced Impacts

Regional direct, indirect, and induced impacts refer to regional multiplier effects of increasing or decreasing regional economic activity. To the extent that the proposed Rule creates either a net revenue loss or gain for impacted firms, this would result in changes in direct regional economic and employment. Firms would also either have more or less money to spend to on goods and services from local suppliers, thereby resulting in indirect impacts, or business-to-business expenditures, and changes in employment at suppliers through the chain of impacted firms. In addition, impacted businesses would either have more or less money to spend hiring regional residents, causing a change in induced impacts resulting from worker household spending.

Because our analysis finds that most major sectors would experience a net positive revenue flow resulting from the payroll tax savings associated with implementation of Option 1 to comply with the proposed Rule, the overall estimated direct and indirect impacts would be positive, totaling approximately $21 million in 2015.[4] The increased revenues would result in 142 new direct and indirect jobs, and an additional 69 induced jobs. Induced impacts from household expenditures of new workers hired in response to higher revenues at impacted firms would total approximately $9 million additionally in 2015.[5]

While the levels of impacts shown here would be substantial if resulting from a single work site or firm, in the context of the entire economy the impacts are negligible. The total direct, indirect, and induced dollar impacts are less than 0.01 percent of revenues estimated for the impacted firms, and employment impacts are also less than 0.01 percent of estimated

[4] The $21 million figure is calculated based only upon the number of employees expected to change commute mode in response to the Rule. The actual savings to employers due to an increase in retained earnings should be higher, because employers who do not already have a pre-tax commuter benefits program (Option 1) in place will also see tax savings related to employees who already commute by transit or vanpool. .

[5] Note that this analysis assumes all of the revenues and expenses would occur in the Bay Area. To the extent that costs and savings would accrue outside the area (e.g., compliance costs occurring at a headquarters location outside the Bay Area), the impacts/benefits here may be somewhat overstated.

employment for those same firms. The estimated dollar impacts are approximately 0.005 percent of the region's 2012 gross domestic product. Since it is assumed that program participation would be higher in 2035, if the program is extended beyond the pilot phase ending in 2016, then the net revenue changes would likely be more positive, with a modest increase in resulting impacts, over the long term.

In addition to the impacts resulting from employer implementation of the proposed Rule through a pre-tax commuter check program, existing employees using the program will see tax savings, effectively increasing their earnings. Some of these earnings will in turn result in new expenditures in the Bay Area, with additional impacts as the new dollars circulate through the Bay Area economy. The approximately $71 million in additional earnings retained in the Bay Area in 2015 are estimated to result in an additional $84 million in induced economic activity, resulting in 613 additional jobs.[6] While these are small numbers relative to the overall Bay Area economy, these benefits are greater than those resulting from the overall increase in employer revenue resulting from implementation of the Rule.

Impacts on Small Businesses

According to California Government Code 14835, a small business is any business that meets the following requirements:

- Must be independently owned and operated;
- Cannot be dominant in its field of operation;
- Must have its principal office located in California;
- Must have its owners (or officers in the case of a corporation) domiciled in California; and
- Together with its affiliates, be either:
    - A business with 100 or fewer employees, and an average annual gross receipts of $10 million or less over the previous three tax years, or
    - A manufacturer with 100 or fewer employees.

There are a number of firms covered by the Rule that meet these criteria. However, we defined a worst-case scenario: i.e., a scenario in which a hypothetical firm with 50 employees incurs initial costs to offer Option 1, but no employees choose to participate, such that the

[6] The $71 million in additional earnings retained is calculated based upon the number of employees expected to change commute mode in response to the Rule. The actual increase in retained earnings should be higher, because many employees who already commute by transit or vanpool will also pay less taxes when their employers make Option 1 available.

employer realizes no payroll tax savings to offset its compliance costs. Analysis of this worst case scenario indicates that across all sectors, for a typical firm of this size with average revenues, the costs would not impact profits at anywhere near the Air Resources Board benchmark threshold of 10 percent of profits. This indicates that the impacts on small businesses would not be significant.

DESCRIPTION OF PROPOSED RULE

Senate Bill 1339, signed into law in fall 2012, authorizes the Bay Area Air Quality Management District (Air District) and the Metropolitan Transportation Commission (MTC) to adopt and implement a Bay Area Commuter Benefits Program (Program) on a pilot basis through the end of year 2016. A proposed new rule (Regulation 14, Rule 1) has been developed by Air District staff to serve as the foundation for the Program. The proposed rule (herein referred to as "the Rule") will be presented for review and approval by the governing boards of both the Air District and MTC in early 2014.

If approved, the Program would require any public, private, or non-profit employer with 50 or more full-time employees in the Bay Area to offer one of four commuter benefit options to its employees. The proposed rule defines a "full-time employee" as any employee who works an average of 30 or more hours per week. An employer that is subject to the Rule (by virtue of having 50 or more full-time employees in the Bay Area) would be required to offer its commuter benefit to all "covered employees," i.e., all employees who work an average of 20 or more hours per week.

In brief, the Program would require employers to (1) designate an employee to serve as the Commuter Benefits Coordinator, (2) select one of the commuter benefit options described below to provide to covered employees, (3) register with the Air District/MTC (via an on-line registration system), (4) notify employees about the commuter benefit and how to apply for it, and (5) provide data needed for Program evaluation to the Air District/MTC.

The four commuter benefit options that employers would choose among are as follows:

Option 1 - Pretax option: Consistent with Section 132(f) of Internal Revenue Code, allow employees to exclude their transit or vanpool costs from taxable wages. (This exclusion is capped at $245 per month for year 2013. However, unless Congress takes action to extend this amount for future years, the exclusion will be capped at $130 per month in year 2014.)

Option 2 - Employer-paid benefit: The employer provides a subsidy to offset the cost of commuting via public transit or by vanpool. In 2013, the subsidy amount would be equal to the monthly cost of commuting via transit or vanpool, or $75, whichever is lower. This amount would be adjusted annually consistent with California Consumer Price Index.

Option 3 - Employer-provided transportation: Transportation furnished by the employer at no cost, or low cost (as determined by the Air District or MTC), to the employee in a vanpool or bus, or similar multi-passenger vehicle operated by or for the employer.

Option 4 - Alternative commuter benefit: The Air District/MTC may approve an alternative commuter benefit proposed by the employer that would provide at least the same reduction in single-occupant vehicle trips (or vehicle emissions) as any of the three options above.

Many Bay Area employers already offer one or more of these commuter benefits to their employees. Employers that already provide commuter benefits are expected to incur minimal administrative costs to comply with Program reporting requirements. An employer that does not currently offer any of the commuter benefits described above would need to select one of the benefits to offer to its employees. The employer would incur costs to do so, as described in this report. However, depending upon the option chosen, employers may be able to save on payroll taxes, thus offsetting compliance costs in whole or in part.

In addition to direct savings in payroll taxes for employers and income taxes for employees, the Program is expected to result in a variety of positive outcomes, such as helping employers to recruit and retain employees, reducing traffic peak period congestion on Bay Area roadways, reducing air pollution and protecting public health, and reducing emissions of greenhouse gases.

REGIONAL TRENDS

This section provides background information on the demographic and economic trends for the nine-county San Francisco Bay Area, which represents the Air District's jurisdiction.[7] Regional trends are compared to statewide demographic and economic patterns since 2000, in order to show the region's unique characteristics relative to the State.

Regional Demographic Trends

Table 1 shows the population and household trends for the nine county Bay Area and California between 2000 and 2013. During this time, the Bay Area's population increased by 8.0 percent, compared to 12.1 percent for California statewide. Likewise, the number of Bay Area households grew by 6.6 percent, compared to a 10.2 percent statewide increase.

Table 1: Population and Household Trends, 2000-2013

Bay Area (a)	**2000**	**2013**	**Total Change 2000-2013**	**% Change 2000-2013**
Population	6,784,348	7,327,626	543,278	8.0%
Households	2,466,020	2,628,762	162,742	6.6%
Average Household Size	2.69	2.73		
California				
Population	33,873,086	37,966,471	4,093,385	12.1%
Households	11,502,871	12,675,876	1,173,005	10.2%
Average Household Size	2.87	2.93		

Notes:
(a) Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

Sources: California State Department of Finance, 2013; US Census, 2000; BAE 2013.

The slower growth in the Bay Area is tied to its relatively built-out environment, compared to the state overall. While Central Valley locations, such as the Sacramento region, experienced large increases in the number of housing units, the Bay Area only experienced moderate increases in housing units.

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[7] The Air District's jurisdiction consists of nine counties, including all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, as well as the western portion of Solano County and the southern portion of Sonoma County. See http://www.arb.ca.gov/app/dislookup/dislookup.php

Regional Economic Trends

Table 2 shows jobs by sector in 2007 and 2012 for the Bay Area and California. In the five-year period between 2007 and 2012, the Bay Area's employment base shrank by 2.9 percent, decreasing from 3.35 million jobs to 3.26 million jobs (see Table 2). This represented a somewhat smaller percentage job loss than the State, where the number of jobs shrank by 4.9 percent.

The largest non-government sectors in the Bay Area economy are Professional, Scientific, & Technical Services; Health Care and Social Assistance; Retail Trade; and Manufacturing. The first two sectors each constituted 10 percent or more of the region's total jobs in 2012, with the latter two falling just below that threshold. Overall, the Bay Area's economic base largely reflects the state's base, sharing a similar distribution of employment across sectors. One noteworthy variation is the high employment in the Professional, Scientific, & Technical Services, which makes up 11.0 percent of employment in the Bay Area compared to only 7.5 percent statewide.

Between 2007 and 2012, the Bay Area's Manufacturing sector lost 9.9 percent of its jobs and Retail Trade lost 6.6 percent of its jobs, but the Professional, Scientific, & Technical Services sector grew by 10.9 percent, and the Healthcare & Social Assistance sector grew by 9.5 percent. Statewide, Manufacturing declined by 14.4 percent and Retail Trade declined by 7.6 percent, while the Professional, Scientific, & Technical Services and Healthcare & Social Assistance sectors grew by 4.1 and 11.1 percent, respectively.

The industries affected by the proposed Program span the entire economy, covering all places of work (work sites) with 50 or more full-time employees, as well as smaller places of work where the employer has more than 50 full-time employees across the Bay Area in multiple locations.[8]

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[8] For the purposes of this analysis, it is important to make the distinction between work sites, which are single locations, and firms, which consist of one or more work site (i.e., places of work). The rule applies to firms, so while all work sites of 50 or more jobs would be covered by the rule, work sites of less than 50 are also covered, if the firm/ownership entity has over 50 employees throughout the Bay Area. The term "work site" is equivalent to the term "establishment" as used by the U.S. Census Bureau and other sources for economic and employment data.

Table 2: Jobs by Sector, 2007-2012 (a)

	Bay Area					California				
	2007 (b)		2012 (c)		% Change	2007 (b)		2012 (c)		% Change
Industry Sector	**Jobs**	**% Total**	**Jobs**	**% Total**	**2007-2012**	**Jobs**	**% Total**	**Jobs**	**% Total**	**2007-2012**
Agriculture	23,200	0.7%	20,500	0.6%	-11.6%	383,700	2.5%	402,500	2.7%	4.9%
Mining and Logging	2,300	0.1%	2,000	0.1%	-13.0%	26,700	0.2%	30,100	0.2%	12.7%
Construction	189,400	5.6%	138,500	4.3%	-26.9%	892,600	5.7%	587,500	4.0%	-34.2%
Manufacturing	348,900	10.4%	314,500	9.7%	-9.9%	1,464,400	9.4%	1,252,800	8.5%	-14.4%
Wholesale Trade	129,200	3.9%	116,800	3.6%	-9.6%	715,300	4.6%	676,800	4.6%	-5.4%
Retail Trade	343,200	10.2%	320,600	9.8%	-6.6%	1,689,900	10.9%	1,561,800	10.6%	-7.6%
Transportation, Warehousing, and Utilities	102,400	3.1%	93,500	2.9%	-8.7%	507,700	3.3%	486,500	3.3%	-4.2%
Information	113,400	3.4%	122,400	3.8%	7.9%	470,800	3.0%	430,400	2.9%	-8.6%
Finance and Insurance	140,300	4.2%	119,800	3.7%	-14.6%	613,100	3.9%	523,700	3.5%	-14.6%
Real Estate and Rental and Leasing	53,400	1.6%	49,100	1.5%	-8.1%	283,500	1.8%	250,900	1.7%	-11.5%
Professional, Scientific, and Technical Services	323,200	9.6%	358,400	11.0%	10.9%	1,060,400	6.8%	1,104,300	7.5%	4.1%
Management of Companies and Enterprises	58,100	1.7%	61,300	1.9%	5.5%	207,200	1.3%	201,700	1.4%	-2.7%
Administrative and Waste Services	192,700	5.7%	180,600	5.5%	-6.3%	997,900	6.4%	929,000	6.3%	-6.9%
Educational Services	76,200	2.3%	88,100	2.7%	15.6%	289,300	1.9%	336,100	2.3%	16.2%
Health Care and Social Assistance	303,100	9.0%	332,000	10.2%	9.5%	1,388,700	8.9%	1,543,100	10.4%	11.1%
Arts, Entertainment, and Recreation	34,200	1.0%	36,500	1.1%	6.7%	252,100	1.6%	259,400	1.8%	2.9%
Accommodation and Food Services	280,600	8.4%	297,700	9.1%	6.1%	1,308,300	8.4%	1,339,700	9.1%	2.4%
Other Services, except Public Administration	112,100	3.3%	113,400	3.5%	1.2%	512,200	3.3%	505,700	3.4%	-1.3%
Government (d)	486,000	14.5%	450,600	13.8%	-7.3%	2,494,600	16.0%	2,375,100	16.1%	-4.8%
Subtotal (e)	**3,311,600**	**98.7%**	**3,215,800**	**98.8%**	**-2.9%**	**15,558,200**	**100.0%**	**14,797,100**	**100.0%**	**-4.9%**
Additional Suppressed Employment (f)	42,600	1.3%	40,300	1.2%	-5.4%	n/a	n/a	n/a	n/a	
Total, All Employment (e)	**3,354,200**	**100.0%**	**3,256,100**	**100.0%**	**-2.9%**	**15,558,200**	**100.0%**	**14,797,100**	**100.0%**	**-4.9%**

Notes:
(a) Includes all wage and salary employment.
(b) Represents annual average employment for calendar year 2007.
(c) Represents annual average employment for calendar year 2012.
(d) Government employment includes workers in all local, state and Federal workers, not just those in public administration. For example, all public school staff are in the Government category.
(e) Totals may not sum from parts due to independent rounding.
(f) County employment for some industries in some counties was suppressed by EDD due to the small number of firms reporting in the industry for a given county. Additionally, Santa Clara data for MSA, which includes San Benito County, since county-level data was not available for 2012. Based on available 2011 data, San Benito has approximately 30,000 wage and salary jobs, an insignificant number relative to the Bay Area total.

Sources: California Employment Development Department, 2013; BAE, 2013.

Affected Industries

The impacts of Regulation 14, Rule 1, are not restricted to any particular industry, and thus will be spread across the entire economy and not limited to any particular sector. For the purposes of analysis, MTC has obtained Dun & Bradstreet data on work sites in the Air District that would be subject to the rule. A profile of the affected work sites is shown below. It should be noted that while there are work sites with less than 50 employees affected by the Rule, they are all part of larger business entities. Since employers with fewer than 50 total employees in the Bay Area would not be impacted by this new rule, this limits the potential impacts on small employers to those with 50 to 100 employees (pursuant to Government Code section 14835).

Based on Dun and Bradstreet data and MTC's analysis of that data, there were a total of 33,253 work sites that met the SB 1339 site selection criteria, broken out as shown in Table 3. Even though the Rule only applies to employers with 50 or more employees in the Bay Area, well over half the work sites covered by the Rule are branch sites with fewer than 50 employees.

Table 3: Number of Work Sites Meeting SB 1339 Selection Criteria

Single sites with 50 or more employees	4,282
Branch sites with 50 or more employees	7,884
Headquarters with 50 or more employees	1,826
Branch Sites with fewer than 50 employees	19,261
Total	**33,253**

Source: MTC, based on an analysis of Dun & Bradstreet data.

More detail on the employment size distribution for the impacted work sites is shown in Table 4.

Table 4: Profile of Affected Industries for Regulation 14, Rule 1

Industry	All Industries
Employment	2,453,198
Average Employment per Work Site	74
Number of Work Sites (by Employees at Site)	
1-4	2,852
5-9	4,341
10-19	5,725
20-49	6,343
50-99	8,272
100+	5,720
Total	33,253

Sources: Dun & Bradstreet, 2013; BAE, 2013.

SOCIO-ECONOMIC IMPACTS

This section (1) describes the methodology to assess impacts, (2) provides an economic profile of the affected industries, (3) describes the annualized compliance costs that employers would incur to comply with the Commuter Benefits Rule, (4) determines whether the annualized compliance costs would significantly burden the affected industries, and (5) estimates the regional economic impacts that would occur if the Rule is adopted.

Methodology

In order to estimate the economic impacts of adopting the Rule on the relevant industries, this report compares annualized compliance costs for the affected industries with their profit ratios. Since the Rule affects all industries, the analysis will show impacts by major industry sector. The analysis uses data from Dun & Bradstreet, the Internal Revenue Service (IRS), MTC, and BAAQMD.

Economic Profile

The data for the economic profile is generated based on the Dun & Bradstreet data obtained by MTC for firms with 50 or more employees in the Bay Area. This site-based data source includes location, estimated revenues, NAICS code, number of employees at the work site, and information on whether the site is a branch location, a single location, or a headquarters location for a firm with multiple locations. Each work site record has a DUNS number unique to that location, as well as a number linking it to the headquarters location of the firm if it is a branch location. This linking number makes it possible to enumerate all the locations in the Bay Area associated with a particular firm. MTC provided BAE with a database of all the affected work sites, as well as a database of all the firms represented in the dataset, some of which are headquartered outside the Bay Area. BAE then linked these two datasets so it was possible to provide data by site or by firm.

Estimated Rate of Return

In its report on returns of active corporations, the Internal Revenue Service (IRS) provides annual data on total sales and net income for public companies across the broad spectrum of the private-sector. For this analysis, 10-year averages were used so that the impacts of any particular year's performance due to economic fluctuations are lessened.

Compliance Costs

Estimates of compliance costs prepared by BAAQMD staff were used for the analysis here. These estimates are described in more detail in the discussion below. These costs are basically applied on in a three-way matrix of one-time vs. ongoing status, work site-based and firm-based, and per employee or per firm. For instance, startup costs are a one-time cost, and are applied on a firm basis. Some of these startup costs are on a per-employee basis, while others are on a per-firm basis.

Because of the variation in current program participation, some ongoing costs of providing the program to employees have to be calculated at the work site level. While data on actual use of commuter benefits programs in the Bay Area is unavailable, this analysis assumes that a higher percentage of employers in San Francisco offer commuter benefits due to the City's existing commuter benefits ordinance, with a lower rate of current employer participation elsewhere in the region. Additionally, there is substantial variation in transit accessibility across the area; MTC has estimated current rates of transit utilization by "superdistrict" [9] as well as expectations regarding increased use by 2015 and 2035. This also factors into employee-based program costs at the work site level.

Program Benefits

There are significant tax savings to firms providing Option 1, the pre-tax commuter check program, since the dollars provided are not taxed. Per IRS section 132(f), the employer saves money because it does not pay FICA taxes (usually 7.65% per employee) or Medicare taxes on the pre-tax dollars that employees set aside to pay their transit and vanpool fares.

On the employee side, pre-tax dollars used to pay for transit or vanpooling are not subject to FICA, Medicare, federal or state income taxes. The percentage of tax savings varies based on an employee's actual tax rate. The analysis here assumes a "typical" marginal tax rate of 25 percent for Federal taxes and six percent for State taxes. An adjustment is also made to account for workers above the cap of $113,700 for Social Security payroll deductions.

While the monthly set-aside amount in 2013 is capped at $245, this amount will decrease in 2014 to $130 absent intervention by Congress. The analysis here conservatively assumes a maximum monthly benefit of $125.[10] Average transit costs per superdistrict have also been estimated by MTC. These average rates are applied in the analysis, with a cap of $125 per month.

Since the proportion of transit users and transit cost varies by superdistrict, these potential tax savings were applied at each work site, based on the estimated number of workers and likely transit usage rates. For the calculation of profit impacts, the employer tax savings were taken into account in computing total compliance costs; i.e., the compliance costs were computed net of these employer savings. The employee savings, while not relevant to an assessment of compliance costs and the impact on firm profits, are considered in assessing regional impacts.

Economic Profile of Affected Industries

In total, there are approximately 33,000 work sites estimated to be impacted by the requirements of the Rule, with 2,453,198 employees in the Bay Area representing approximately three-fourths of all

[9] MTC "superdistricts" are used for planning on an intermediate geographic scale. Superdistricts are larger than census tracts, but smaller than counties. MTC has divided the Bay Area into 34 superdistricts.

[10] At the time of BAE's analysis, the rate for 2014 had not yet been set, but the baseline rate of $125 before an inflation adjustment was known. Thus BAE used the $125 rate in its analysis. The higher rate of $130 per month would result in slightly lower overall impacts, since it has no impact on employer compliance costs, but would only lead to greater employer and employee tax savings. Therefore, the use of $125 is conservative with respect to impacts. Furthermore, this rate is still a "moving target," since it is possible that Congress could act to carry over the much higher 2013 rate, so BAE has not updated to the $130 monthly cap in its analysis.

employees in the region.[11] Based on estimates derived from the Dun & Bradstreet data the affected work sites have estimated annual sales ranging up to approximately $21 billion for the highest revenue-generating work site,[12] and employment ranging from one to 10,000 employees. It should be noted that a number of work sites affected by the Rule are in the public sector, and do not show revenues in the Dun & Bradstreet database. Revenue information is also missing for a number of the private sector employers.

Estimated Rate of Return

For the purposes of this analysis, firms have been aggregated to 19 industry groups using standard NAICS classifications. Table 5 presents 10-year average net income as a percent of total receipts for each of the 19 industry groups per IRS compilations of corporate returns nationwide. The 10 year average rates of return range from 3.1 percent for wholesale trade and retail trade to 14.9 percent for finance and insurance.

Table 5: Returns on Total Receipts by Major Industry Group, 2002-2011, for Active Corporations

Major Industry Group	Total Receipts 2002-2011 (in $000)	Net Income 2002-2011 (in $000)	Net Income as % of Total Receipts
Agriculture, forestry, fishing, and hunting	$1,427,436,128	$80,015,224	5.6%
Mining	$3,078,879,307	$405,633,294	13.2%
Utilities	$6,756,773,236	$266,024,809	3.9%
Construction	$13,023,186,262	$628,863,407	4.8%
Manufacturing	$67,330,611,407	$4,480,545,730	6.7%
Wholesale trade	$32,827,556,306	$1,002,044,526	3.1%
Retail trade	$32,987,334,141	$1,013,826,381	3.1%
Transportation and warehousing	$6,703,536,958	$248,915,818	3.7%
Information	$10,362,689,943	$871,699,667	8.4%
Finance and insurance	$32,130,457,408	$4,660,263,282	14.5%
Real estate and rental and leasing	$2,976,047,319	$388,135,200	13.0%
Professional, scientific, and technical services	$8,816,178,312	$642,379,043	7.3%
Management of companies and enterprises	$8,782,874,443	$1,114,984,949	12.7%
Administrative and waste management services	$4,327,717,038	$211,148,422	4.9%
Educational services	$401,097,131	$38,215,565	9.5%
Health care and social assistance	$5,643,445,621	$339,850,846	6.0%
Arts, entertainment, and recreation	$894,679,665	$69,327,488	7.7%
Accommodation & food services	$4,287,501,897	$228,907,682	5.3%
Other services	$1,888,140,439	$91,454,030	4.8%

Source: Internal Revenue Service, Returns of Active Corporations, Table 1; BAE, 2013.

[11] Note that this compares Dun & Bradstreet data for the affected industries with overall employment data from EDD; there may be differences in enumeration such that this proportion should be considered a rough estimate.

[12] Revenue has been calculated based on revenue per employee firm-wide applied on a per employee basis to Bay Area work sites.

Compliance Costs

The impacted industries cover the entire economy, with broad variations in operations, configuration, and location. The potential compliance measures, however, are the same for all work sites, so cost factors should generally not vary by industry or business type. As noted above there are four benefit options from which employers could choose: Option 1, the pre-tax option, whereby the employer allows employees to exclude transit or vanpool costs from taxable wages; Option 2, an employer subsidy commuting by transit or vanpool; Option 3, employer-provide transportation (e.g,. buses or vanpools to the work site), provided at no or low cost to the employee; or Option 4, an alternative commuter benefit that would provide reductions in single-occupant vehicle trips equal to or greater than the first three options.

For the purposes of this socioeconomic analysis, it is assumed that employers will elect to provide Option 1, the pre-tax option, because this option has the lowest net cost and is easy to set up and administer. One key factor here is that provision of Option 1 provides tax savings for employers, as described above. Information submitted by employers who comply with the City of San Francisco commuter benefits ordinance program provides empirical support for the assumption that employers will comply by offering Option 1.[13] Following is a brief description of potential costs related to implementation of Option 1, followed by a discussion of the savings.

Costs

The costs for implementing a commuter check program can be broken down as follows:

1. Initial program setup costs
2. Ongoing program administration costs
3. Annual reporting costs
4. Program evaluation costs

Initial Program Costs

These costs are a one-time item applied on a per-firm basis. In the absence of any published estimates of compliance costs for a commuter benefits program, Air District staff has estimated, in hourly increments, the program costs for these four components.[14] While costs are assumed to increase with employer size, these increases are not expected to be directly linear. BAE has then assumed an hourly wage based on Bay Area averages for compensation and benefits managers and compensation, benefits, and job analysis specialists, to estimate the total cost by firm size to implement a program. Additionally, the estimate of initial program costs is based on an assumption that a certain percentage of employers already provide commuter benefits to their employees. Because the startup costs for these employers will primarily relate to assessing the Rule and its implications for their current program, their costs should be considerably lower than firms

[13] 84 percent of employers who comply with the San Francisco ordinance offer the pre-tax benefit. This includes 79 percent who comply by offering Option 1, plus an additional 5% who offer Option 1 in combination with Option 2.
[14] "Estimated Employer Compliance Costs for Bay Area Commuter Benefits Program," August 26, 2013, BAAQMD.

implementing a new program from scratch. The current prevalence of commuter benefits programs is estimated to 50 percent among employers in San Francisco, where a similar requirement (the local commuter benefits ordinance) is already in place, and 31 percent elsewhere.[15]

Table 6 presents estimated initial program setup costs. For companies with a program already in place, costs for setup are estimated at approximately $181; for companies with no program currently in place, costs range from $662 to slightly more than $1,200, depending on the number of employees. For the overall analysis, BAE has used a weighted average setup cost based on whether the business is in San Francisco or elsewhere, and the estimated prevalence of employers that currently provide commuter benefits programs.

[15] MTC Commuter Benefits Ordinance Calculator, September 6, 2011, ICF International.

Table 6: Startup Compliance Costs

Task	Estimated Time (# hours): Existing Program				Estimated Time (# hours): New Program			
	# of Employees				# of Employees			
	50	**100**	**500**	**1,000**	**50**	**100**	**500**	**1,000**
Review the initial notice from the Air District & MTC	1	1	1	1	1	1	1	1
Designate a Commuter Benefits Coordinator	0	0	0	0	1	1	1	1
Review the employer assistance materials, evaluate the four options, and choose an option	1	1	1	1	3	3	5	5
Evaluate whether to administer commuter benefit in-house or to contract w a benefits administrator	0	0	0	0	2	2	3	3
Complete the employer registration form and submit the required information	1	1	1	1	1	1	1	1
Inform employees about the program & how to apply for the commute benefit selected	0	0	0	0	2	2	4	4
Enroll employees who request the benefit	0	0	0	0	1	2	3	5
Estimated **Total Hours** for initial program set-up	**3**	**3**	**3**	**3**	**11**	**12**	**18**	**20**

Mean Hourly Wage for Benefits Staff $42.13
Total with Benefits $60.19 benefits @ 30% of total

Task	Estimated Cost: Existing Program				Estimated Cost: New Program			
	# of Employees				# of Employees			
	50	**100**	**500**	**1,000**	**50**	**100**	**500**	**1,000**
Review the initial notice from the Air District & MTC	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19
Designate a Commuter Benefits Coordinator	$0.00	$0.00	$0.00	$0.00	$60.19	$60.19	$60.19	$60.19
Review the employer assistance materials, evaluate the four options, and choose an option	$60.19	$60.19	$60.19	$60.19	$180.57	$180.57	$300.95	$300.95
Evaluate whether to administer commuter benefit in-house or to contract w a benefits administrator	$0.00	$0.00	$0.00	$0.00	$120.38	$120.38	$180.57	$180.57
Complete the employer registration form and submit the required information	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19	$60.19
Inform employees about the program & how to apply for the commute benefit selected	$0.00	$0.00	$0.00	$0.00	$120.38	$120.38	$240.76	$240.76
Enroll employees who request the benefit	$0.00	$0.00	$0.00	$0.00	$60.19	$120.38	$180.57	$300.95
Estimated **Total Wages** for initial program set-up	**$180.57**	**$180.57**	**$180.57**	**$180.57**	**$662.09**	**$722.28**	**$1,083.42**	**$1,203.80**

Sources: BAAQMD, for estimates of hours required for compliance; EDD, for wage information; BLS (for National Compensation Survey), for benefits estimate; BAE, 2013.

Ongoing Program Administration Costs
BAAQMD staff has estimated ongoing program administrative costs per employee of $3 to $5 monthly per participating employee. This is the price range charged by third-party vendors who are available to administer commuter benefits for employers; it is assumed that an employer will contract with an outside vendor if its costs to administer the commuter benefit in-house would exceed this amount. The analysis here, to be conservative, uses the $5 per employee figure for a total of $60 per year for each participating employee.

Annual Reporting Costs
The Rule will require employers to update their registration information on an annual basis, via an on-line process in which the employer's Commuter Benefits Coordinator can log on to its record and update its information on-line as needed. In addition, the Rule will require employers to notify their employees about the commuter benefits they offer on an annual basis. BAAQMD staff estimate one to two hours of time annually of employer staff time. BAE has assumed two hours of time, using the same cost for benefits staff as above, $60.19 per hour including benefits, for a total annual cost per firm of $120.38.

Program Evaluation Costs
BAAQMD and MTC are required to submit a report to the Legislature in 2016 summarizing the results of the Program in reducing employee commute trips and motor vehicle emissions. The methodology that will be used to generate data needed for this report has not yet been determined. One of the options under consideration would be to perform an on-line survey of a subset of employers and employees to generate data for this report. This report submittal would be a one-time occurrence, requiring survey completion only once rather than on a recurring basis. Although it is not certain that such a survey will be needed, the potential costs to employers to facilitate administration of a survey are estimated and factored into the overall employer compliance costs, as described below.

BAAQMD staff estimate the employer survey will require one hour of employer staff time to complete. The employee survey is estimated to require one hour of employer staff time to coordinate and complete, and one hour of employer staff time per 500 employees to respond to employee questions. At $60.19 per hour, this would be approximately $0.12 per employee pro-rated.

It is assumed that five to ten minutes of employee time will be required for each employee to complete the survey. BAE has assumed 10 minutes, at the estimated employee hourly rate (with benefits) of $43.85, or an average cost of $7.31 per employee.

Analysis would not require participation of every firm; BAAQMD staff assume 10 percent to 15 percent of all impacted firms would be sampled. To compute overall costs to all firms, BAE has applied a 15 percent factor to each of the program evaluation costs above, as shown in Table 7.

Table 7: Administration, Annual Reporting Costs, and Program Evaluation Costs

<u>Administration</u>	
	$5 per employee per year
<u>Annual Reporting Costs</u>	
	2 hours of staff time per employee $60.19 hourly wage cost for staff (same as for startup costs) **$120.38 per firm per year**
<u>Program Evaluation Costs</u>	
Employer Survey	
	1 hour for completion $60.19 hourly wage cost for staff (same as for startup costs) $60.19 per firm selected (one-time) 15% of firms selected to complete survey **$9.03 average per firm (one-time)**
Employee Survey	
	1 hour to coordinate and distribute survey (regardless of firm size) $60.19 hourly wage cost for staff (same as for startup costs) $60.19 per firm selected (one-time) 15% of firms selected to complete survey **$9.03 average per firm (one-time)**
	1 hour per 500 employees to respond to employee questions $60.19 use same wage + benefit rate $60.19 per 500 employees (one time) for firms selected 15% of firms selected to complete survey **$0.02 average per firm (one-time)**
	10 minutes per employee to complete survey $43.85 Estimate of average hourly employee wages and benefits 15% of firms selected to complete survey **$1.10 average per employee (one-time)**
	$1.11 total average per employee (one-time)

Sources: BAAQMD, for estimates of hours required for compliance; EDD, for wage information; BLS (National Compensation Survey), for benefits estimate; BAE, 2013. BAE has chosen high end of BAAQMD estimates of time range.

Table 8 presents a summary of total net compliance costs by major industrial sector for 2015 for the impacted firms. These net costs take into account employer tax benefits for employees who choose to pay their transit or vanpool fares with pre-tax dollars pursuant to Option 1, but do not include tax benefits accruing to employees. Excluded from the analysis are firms for which revenue information was not available, including public sector entities. As shown, 17 of the 19 sectors show a net gain from implementing Option 1, as the employer tax savings are greater than the annualized costs. The results shown are for 2015. Since MTC and the Air District expect that the use of alternative commute modes will increase over time in response to employer commuter benefit programs, results from future years would show additional net gains across all sectors resulting from program implementation.

Table 8: Employer Compliance Costs by Major Industry Group, 2015

Agriculture, forestry, fishing, and hunting	**Net Costs**	**Annualized Net Costs**
Capital Costs	$28,813	$3,731
Annual Operating Costs	$1,153	$1,153
Total Costs	*$29,966*	*$4,884*

Mining	**Net Costs**	**Annualized Net Costs**
Capital Costs	$9,958	$1,290
Annual Operating Costs	($101)	($101)
Total Costs	*$9,857*	*$1,188*

Utilities	**Net Costs**	**Annualized Net Costs**
Capital Costs	$31,336	$4,058
Annual Operating Costs	($57,467)	($57,467)
Total Costs	*($26,131)*	*($53,409)*

Construction	**Net Costs**	**Annualized Net Costs**
Capital Costs	$323,106	$41,842
Annual Operating Costs	($56,064)	($56,064)
Total Costs	*$267,042*	*($14,222)*

Manufacturing	**Net Costs**	**Annualized Net Costs**
Capital Costs	$1,024,173	$132,630
Annual Operating Costs	($349,137)	($349,137)
Total Costs	*$675,035*	*($216,507)*

Wholesale trade	**Net Costs**	**Annualized Net Costs**
Capital Costs	$341,940	$44,281
Annual Operating Costs	($70,447)	($70,447)
Total Costs	*$271,493*	*($26,166)*

Retail trade	**Net Costs**	**Annualized Net Costs**
Capital Costs	$628,215	$81,354
Annual Operating Costs	($357,682)	($357,682)
Total Costs	*$270,532*	*($276,329)*

Transportation and warehousing	**Net Costs**	**Annualized Net Costs**
Capital Costs	$204,315	$26,459
Annual Operating Costs	($111,912)	($111,912)
Total Costs	*$92,403*	*($85,453)*

Information	**Net Costs**	**Annualized Net Costs**
Capital Costs	$387,951	$50,240
Annual Operating Costs	($313,703)	($313,703)
Total Costs	*$74,249*	*($263,463)*

Finance and insurance	**Net Costs**	**Annualized Net Costs**
Capital Costs	$411,318	$53,266
Annual Operating Costs	($611,039)	($611,039)
Total Costs	*($199,721)*	*($557,773)*

Notes:
The figures in red font and in parentheses represent savings; continued on next page.

Table 8: Employer Compliance Costs by Major Industry Group, 2015, continued

Real estate and rental and leasing	Net Costs	Annualized Net Costs
Capital Costs	$173,946	$22,526
Annual Operating Costs	($80,573)	($80,573)
Total Costs	*$93,373*	*($58,047)*

Professional, scientific, and technical services	Net Costs	Annualized Net Costs
Capital Costs	$879,453	$113,889
Annual Operating Costs	($653,959)	($653,959)
Total Costs	*$225,494*	*($540,070)*

Management of companies and enterprises	Net Costs	Annualized Net Costs
Capital Costs	$6,882	$891
Annual Operating Costs	($6,647)	($6,647)
Total Costs	*$234*	*($5,756)*

Administrative and waste management services	Net Costs	Annualized Net Costs
Capital Costs	$394,442	$51,080
Annual Operating Costs	($208,022)	($208,022)
Total Costs	*$186,420*	*($156,942)*

Educational services	Net Costs	Annualized Net Costs
Capital Costs	$425,063	$55,046
Annual Operating Costs	($356,805)	($356,805)
Total Costs	*$68,258*	*($301,759)*

Health care and social assistance	Net Costs	Annualized Net Costs
Capital Costs	$659,519	$85,408
Annual Operating Costs	($930,200)	($930,200)
Total Costs	*($270,680)*	*($844,792)*

Arts, entertainment, and recreation	Net Costs	Annualized Net Costs
Capital Costs	$144,076	$18,658
Annual Operating Costs	($45,401)	($45,401)
Total Costs	*$98,675*	*($26,743)*

Accommodation & food services	Net Costs	Annualized Net Costs
Capital Costs	$513,935	$66,555
Annual Operating Costs	($352,913)	($352,913)
Total Costs	*$161,022*	*($286,359)*

Other services	Net Costs	Annualized Net Costs
Capital Costs	$198,642	$25,724
Annual Operating Costs	($86,821)	($86,821)
Total Costs	*$111,822*	*($61,097)*

Notes:
Capital costs have been annualized based on a capital cost factor of 0.1295, based on a 5% interest rate applied over 10 years.

The figures in red font and in parentheses represent savings.

Sources: BAAQMD, 2013; BAE, 2013.

Variations by sector are due to a combination of factors that may differ by firm type, including the degree and quality of transit service to the worksite, which in turn impacts the rate of employee participation in the commuter benefits program, and thus the tax savings to the employer. For instance, the finance and insurance sector is more focused in San Francisco and other office locations which tend to have good transit access and hence are assumed to have greater participation in a commuter checks program. Additionally, since some of the costs are fixed regardless of firm size, sectors with a greater proportion of small firms would also be likely to show higher costs relative to the tax benefits available.

To assess whether the impacts would be greater for smaller firms due to the fixed costs, BAE has also completed the compliance cost analysis for firms with less than 75 employees in the Bay Area aggregated by major industry sector. As shown in Table 9, for small employers, only three of the 19 sectors (information, finance and insurance, and professional, scientific, and technical services) show a net gain resulting from implementation of a commuter benefits program. These are sectors concentrated in office locations and hence more likely to be in San Francisco or otherwise situated near transit.

Table 9: Employer Compliance Costs by Major Industry Group for Small Employers, 2015

Agriculture, forestry, fishing, and hunting	Net Costs	Annualized Net Costs
Capital Costs	$10,470	$1,356
Annual Operating Costs	$2,290	$2,290
Total Costs	*$12,760*	*$3,646*

Mining	Net Costs	Annualized Net Costs
Capital Costs	$2,019	$262
Annual Operating Costs	$360	$360
Total Costs	*$2,379*	*$621*

Utilities	Net Costs	Annualized Net Costs
Capital Costs	$7,812	$1,012
Annual Operating Costs	($450)	($450)
Total Costs	*$7,362*	*$562*

Construction	Net Costs	Annualized Net Costs
Capital Costs	$115,756	$14,990
Annual Operating Costs	$7,603	$7,603
Total Costs	*$123,359*	*$22,594*

Manufacturing	Net Costs	Annualized Net Costs
Capital Costs	$211,795	$27,427
Annual Operating Costs	$17,638	$17,638
Total Costs	*$229,433*	*$45,065*

Wholesale trade	Net Costs	Annualized Net Costs
Capital Costs	$117,910	$15,269
Annual Operating Costs	$3,546	$3,546
Total Costs	*$121,456*	*$18,816*

Retail trade	Net Costs	Annualized Net Costs
Capital Costs	$123,197	$15,954
Annual Operating Costs	$6,665	$6,665
Total Costs	*$129,862*	*$22,619*

Transportation and warehousing	Net Costs	Annualized Net Costs
Capital Costs	$43,480	$5,631
Annual Operating Costs	$456	$456
Total Costs	*$43,936*	*$6,087*

Information	Net Costs	Annualized Net Costs
Capital Costs	$82,186	$10,643
Annual Operating Costs	($13,290)	($13,290)
Total Costs	*$68,896*	*($2,647)*

Finance and insurance	Net Costs	Annualized Net Costs
Capital Costs	$80,505	$10,425
Annual Operating Costs	($21,783)	($21,783)
Total Costs	*$58,722*	*($11,358)*

Notes:
The figures in red font and in parentheses represent savings; continued on next page.

Table 9: Employer Compliance Costs by Major Industry Group for Small Employers, 2015, continued

Real estate and rental and leasing	**Net Costs**	**Annualized Net Costs**
Capital Costs	$61,278	$7,935
Annual Operating Costs	($6,255)	($6,255)
Total Costs	*$55,023*	*$1,681*

Professional, scientific, and technical services	**Net Costs**	**Annualized Net Costs**
Capital Costs	$296,139	$38,350
Annual Operating Costs	($55,141)	($55,141)
Total Costs	*$240,998*	*($16,791)*

Management of companies and enterprises	**Net Costs**	**Annualized Net Costs**
Capital Costs	$990	$128
Annual Operating Costs	$210	$210
Total Costs	*$1,200*	*$338*

Administrative and waste management services	**Net Costs**	**Annualized Net Costs**
Capital Costs	$122,015	$15,801
Annual Operating Costs	($3,703)	($3,703)
Total Costs	*$118,312*	*$12,098*

Educational services	**Net Costs**	**Annualized Net Costs**
Capital Costs	$63,734	$8,254
Annual Operating Costs	$662	$662
Total Costs	*$64,396*	*$8,916*

Health care and social assistance	**Net Costs**	**Annualized Net Costs**
Capital Costs	$128,163	$16,597
Annual Operating Costs	$661	$661
Total Costs	*$128,823*	*$17,258*

Arts, entertainment, and recreation	**Net Costs**	**Annualized Net Costs**
Capital Costs	$48,301	$6,255
Annual Operating Costs	$382	$382
Total Costs	*$48,683*	*$6,637*

Accommodation & food services	**Net Costs**	**Annualized Net Costs**
Capital Costs	$143,016	$18,521
Annual Operating Costs	($10,194)	($10,194)
Total Costs	*$132,822*	*$8,326*

Other services	**Net Costs**	**Annualized Net Costs**
Capital Costs	$68,733	$8,901
Annual Operating Costs	($5,206)	($5,206)
Total Costs	*$63,527*	*$3,695*

Notes:
Capital costs have been annualized based on a capital cost factor of 0.1295, based on a 5% interest rate applied over 10 years. Includes only firms with less than 75 employees in the Bay Area.

The figures in red font and in parentheses represent savings.

Sources: BAAQMD, 2013; BAE, 2013.

Economic Impacts Analysis for Affected Industries

In order to determine the impacts of these measures on the firms covered by the Rule, the analysis that follows compares annualized compliance costs to annual profits. The analysis then calculates the compliance costs as a percentage of profits to determine the level of impact. BAAQMD uses the ARB's 10 percent threshold as a proxy for burden. Annualized compliance costs resulting in profit losses of 10 percent or more indicate that the proposed compliance measure has the potential for significant adverse economic impacts. Since there are far too many firms to reasonably assess impacts on a firm-by-firm basis, where future participation is estimated rather than known, this analysis consists of three steps.

1. Overall sectoral compliance costs (from Table 8 above) are compared to the profit margins by sector derived from IRS data, to see how particular sectors fare with respect to the 10 percent burden threshold.

2. Since smaller firms will have greater impacts due to fixed costs, sectors will be assessed relative to the 10 percent burden for firms of less than 75 Bay Area employees, whose compliance costs are shown in Table 9.

3. As a "worst case" scenario, compliance costs are estimated for a hypothetical firm with 50 Bay Area employees in each sector, assuming no employee participation and thus no tax savings to the employer. The compliance costs are then compared with estimated average revenues for that sector as generated on a per-employee basis.

It is important to note that not all firms in the Dun & Bradstreet database have the revenue information necessary to do this analysis; such firms have been excluded from this economic impact analysis.

Overall Sectoral Impact on Profits

Table 10 shows the estimated annualized compliance costs as a share of total profits by sector. As shown, the share of annual profits by sector is insignificant across all sectors, with no sector with a share of annual profit greater than one-tenth of one percent. Note: For sectors where employers would experience a net savings, compliance costs are shown as "NA" (i.e., not applicable) in the "Share of Annual Profit" column.

Impact on Profits at Small Firms by Sector

Table 11 shows the estimated impacts on profits for firms of 50 to 74 employees. While the proportion of annual profits is more than for the sectors overall, the highest reduction in annual profit is still estimated to be only 0.054 percent of profits, well below the 10 percent threshold.

Table 10: Compliance Costs as Share of Profit, 2015, All Impacted Firms

All dollar amounts in thousands ***Major Sector***	Estimated Annual Revenues	Estimated Return on Revenues	Estimated Annual Profits	Annualized Compliance Cost, 2015	Share of Annual Profit
Agriculture, forestry, fishing, and hunting	$378,991	5.6%	$21,244	$5	0.024%
Mining	$499,174	13.2%	$65,765	$0	0.001%
Utilities	$6,372,038	3.9%	$250,877	($52)	NA
Construction	$10,140,909	4.8%	$489,684	($1)	NA
Manufacturing	$104,315,595	6.7%	$6,941,728	($129)	NA
Wholesale trade	$11,342,338	3.1%	$346,219	($14)	NA
Retail trade	$20,477,161	3.1%	$629,341	($122)	NA
Transportation and warehousing	$2,911,305	3.7%	$108,103	($26)	NA
Information	$12,531,955	8.4%	$1,054,176	($153)	NA
Finance and insurance	$80,595,384	14.5%	$11,689,709	($421)	NA
Real estate and rental and leasing	$1,706,231	13.0%	$222,526	($42)	NA
Professional, scientific, and technical services	$18,486,390	7.3%	$1,346,986	($238)	NA
Management of companies and enterprises	$56,182	12.7%	$7,132	$0.2	0.003%
Administrative and waste management services	$4,655,150	4.9%	$227,124	($110)	NA
Educational services	$13,547,310	9.5%	$1,290,755	($220)	NA
Health care and social assistance	$22,790,372	6.0%	$1,372,446	($194)	NA
Arts, entertainment, and recreation	$1,394,685	7.7%	$108,072	($10)	NA
Accommodation & food services	$3,616,288	5.3%	$193,072	($163)	NA
Other services	$2,363,276	4.8%	$114,468	($42)	NA

Excludes firms for which Dun & Bradstreet has no revenue information.

The figures in red font and in parentheses represent savings.

Sources: Dun & Bradstreet; IRS; BAAQMD, 2013; BAE, 2013.

Table 11: Compliance Costs as Share of Profit, 2015, Firms with < 75 Employees

All dollar amounts in thousands ***Major Sector***	Estimated Annual Revenues	Estimated Return on Revenues	Estimated Annual Profits	Annualized Compliance Cost, 2015	Share of Annual Profit
Agriculture, forestry, fishing, and hunting	$115,100	5.6%	$6,452	$3.47	0.054%
Mining	$15,701	13.2%	$2,069	$0.29	0.014%
Utilities	$146,426	3.9%	$5,765	$0.85	0.015%
Construction	$1,796,031	4.8%	$86,727	$21.64	0.025%
Manufacturing	$2,940,167	6.7%	$195,655	$34.33	0.018%
Wholesale trade	$1,971,529	3.1%	$60,180	$14.04	0.023%
Retail trade	$2,058,233	3.1%	$63,257	$17.13	0.027%
Transportation and warehousing	$309,496	3.7%	$11,492	$3.40	0.030%
Information	$675,861	8.4%	$56,853	($0.83)	NA
Finance and insurance	$1,210,390	14.5%	$175,557	($5.39)	NA
Real estate and rental and leasing	$320,086	13.0%	$41,746	$0.53	0.001%
Professional, scientific, and technical services	$2,778,032	7.3%	$202,418	($6.31)	NA
Management of companies and enterprises	$4,800	12.7%	$609	$0.17	0.028%
Administrative and waste management services	$944,915	4.9%	$46,102	$12.32	0.027%
Educational services	$455,218	9.5%	$43,372	$8.50	0.020%
Health care and social assistance	$850,623	6.0%	$51,225	$14.22	0.028%
Arts, entertainment, and recreation	$291,658	7.7%	$22,600	$6.30	0.028%
Accommodation & food services	$502,499	5.3%	$26,828	$7.64	0.028%
Other services	$483,222	4.8%	$23,405	$2.83	0.012%

Excludes firms for which Dun & Bradstreet has no revenue information.

The figures in red font and in parentheses represent savings.

Sources: Dun & Bradstreet; IRS; BAAQMD, 2013; BAE, 2013.

Worst-Case Scenario by Sector

Since some costs are fixed regardless of firm size, the greatest impacts would be likely fall on the firms with the fewest employees, and likely the lowest revenues. These small firms may also have difficulty garnering participation in a commuter benefits program, especially if transit options are limited. To assess the potential "worst case" impacts by sector, BAE assumed a firm of 50 Bay Area employees for each major sector, with no program previously in place, and no participation in the program (thus generating no tax benefits for the employer). Even under this scenario, the loss of profit is under one percent across all sectors, still far below the 10 percent ARB threshold (see Table 12).

Table 12: Compliance Costs as Share of Profit, 2015, Worst Case Scenario

All dollar amounts in thousands

Major Sector	**Estimated Annual Revenues**	**Estimated Return on Revenues**	**Estimated Annual Profits**	**Annualized Compliance Cost, 2015**	**Share of Annual Profit**
Agriculture, forestry, fishing, and hunting	$5,404	5.6%	$303	$0.27	0.089%
Mining	$6,542	13.2%	$862	$0.27	0.031%
Utilities	$11,178	3.9%	$440	$0.27	0.061%
Construction	$7,772	4.8%	$375	$0.27	0.072%
Manufacturing	$8,030	6.7%	$534	$0.27	0.050%
Wholesale trade	$10,301	3.1%	$314	$0.27	0.086%
Retail trade	$9,608	3.1%	$295	$0.27	0.091%
Transportation and warehousing	$4,860	3.7%	$180	$0.27	0.150%
Information	$5,217	8.4%	$439	$0.27	0.061%
Finance and insurance	$11,543	14.5%	$1,674	$0.27	0.016%
Real estate and rental and leasing	$2,863	13.0%	$373	$0.27	0.072%
Professional, scientific, and technical services	$5,573	7.3%	$406	$0.27	0.066%
Management of companies and enterprises	$4,800	12.7%	$609	$0.27	0.044%
Administrative and waste management services	$4,538	4.9%	$221	$0.27	0.122%
Educational services	$3,705	9.5%	$353	$0.27	0.076%
Health care and social assistance	$3,589	6.0%	$216	$0.27	0.125%
Arts, entertainment, and recreation	$2,988	7.7%	$232	$0.27	0.117%
Accommodation & food services	$1,835	5.3%	$98	$0.27	0.275%
Other services	$3,883	4.8%	$188	$0.27	0.143%

Based on one firm in each sector with 50 Bay Area employees, with no program currently in place. Revenues based on average per employee by major sector. Also assumes firm is selected to be in survey sample.

Sources: Dun & Bradstreet; IRS; BAAQMD, 2013; BAE, 2013.

As these tables show, for firms at average revenue levels by sector, annualized compliance costs are far below the 10 percent burden threshold across the board, even for the smallest firms with zero program participation. This indicates that even firms performing well below average will not likely face a high burden on profits due to implementation of the Rule.

Affected Industries and Regional Impacts

On average, the proposed Rule would not result in significant economic impacts to firms within the affected industries. Even for a "worst case scenario," where a firm implements the proposed Rule using the pre-tax option and no employees participate, the impacts on typical profits by major industry group are negligible, far below the 10 percent threshold.

Regional Direct, Indirect, and Induced Impacts

Regional direct, indirect, and induced impacts refer to regional multiplier effects of increasing or decreasing regional economic activity. To the extent that the proposed Rule creates either a net revenue loss or gain for impacted firms, this would result in changes in direct regional economic and employment. Firms would also either have more or less money to spend to on goods and services from local suppliers, thereby resulting in indirect impacts, or business-to-business expenditures, and changes in employment at suppliers through the chain of impacted firms. In addition, impacted businesses would either have more or less money to spend hiring regional residents, resulting in a change in induced impacts resulting from worker household spending. Table 13 summarizes these impacts in 2015 for businesses across the entire range of the economy.

As shown in the table and discussed above, the total of compliance costs including tax savings is actually a net benefit for some firms, since the tax benefit is greater than the compliance costs. In fact, most major sectors show a net positive revenue flow overall (see Table 8 above).

As a result, most sectors also show positive impacts. Using RIMS II multipliers from the Bureau of Economic Analysis,[16] the overall estimated direct and indirect impacts would be positive, totaling approximately $21 million in 2015. Induced impacts from household expenditures of new workers at impacted firms would total approximately $9 million additionally in 2015.[17] The increased revenues would result in 142 new direct and indirect jobs, and an additional 69 induced jobs.

While the levels of impacts shown here would be substantial if resulting from a single work site or firm, in the context of the entire economy the impacts are negligible. The total direct, indirect, and induced dollar impacts are less than 0.01 percent of revenues estimated for the impacted firms, and employment impacts are also less than 0.01 percent of estimated employment for those same firms. The estimated dollar impacts are approximately 0.005 percent of the region's 2012 gross domestic product. Since MTC and the Air District expect that the use of alternative commute modes will increase over time in response to employer commuter benefit programs, the net revenue changes would likely be more positive in future years, with a modest increase in resulting impacts.

[16] The Regional Input-Output Modeling System (RIMS II), a regional economic model, is a tool used by investors, planners, and elected officials to objectively assess the potential economic impacts of various projects. This model produces multipliers that are used in economic impact studies to estimate the total impact of a project on a region. (from *RIMS II: An Essential Tool for Regional Developers and Planners*, Bureau of Economic Analysis)

[17] Note that this analysis assumes all of the revenues and expenses would occur in the Bay Area. To the extent that costs and savings would accrue outside the area (e.g., compliance costs occurring at a headquarters location outside the Bay Area), the impacts/benefits here may be somewhat overstated.

Table 13: Direct, Indirect, and Induced Impacts by Major Industry Group

	Dollar Impacts		Change in Number of Jobs	
Major Sector	**Direct & Indirect Output Impacts**	**Induced Output Impacts**	**Direct & Indirect Employment Impacts**	**Induced Employment Impacts**
Agriculture, forestry, fishing, and hunting	($10,418)	($601)	(0.145)	(0.006)
Mining	($3,916)	($89)	(0.013)	(0.000)
Utilities	$69,037	$13,187	0.095	0.018
Construction	$21,004	$2,942	0.154	0.022
Manufacturing	$5,077,872	$557,463	21.421	1.469
Wholesale trade	$65,451	$33,809	0.306	0.158
Retail trade	$345,162	$801,242	4.166	9.671
Transportation and warehousing	$778,922	$62,466	5.332	0.448
Information	$1,927,416	$499,921	6.253	1.313
Finance and insurance	$4,615,241	$2,220,943	22.607	9.595
Real estate and rental and leasing	$251,877	$334,925	1.067	1.661
Professional, scientific, and technical services	$2,524,936	$911,747	18.008	6.506
Management of companies and enterprises	$13,354	$2,121	0.068	0.011
Administrative and waste management services	$600,945	$131,533	7.494	1.952
Educational services	$312,019	$183,168	4.559	2.673
Health care and social assistance	$3,435,261	$3,218,403	45.114	29.678
Arts, entertainment, and recreation	$64,563	$11,967	0.906	0.170
Accommodation	$239,883	$88,469	1.951	0.720
Food services	$121,543	$116,132	1.899	1.815
Other services	$98,543	$93,918	0.829	0.790
TOTAL IMPACTS	**$20,548,696**	**$9,283,664**	**142.1**	**68.7**
As % of Impacted Firms	0.006%	0.003%	0.006%	0.003%
As % of Bay Area Gross Domestic Product	0.004%	0.002%		

Multipliers to calculate impacts from Bureau of Economic Analysis is RIMS II Input-Output. Assumes all the savings and costs are kept in the Bay Area, even if firm is headquartered elsewhere. 2012 gross domestic product also from Bureau of Economic Analysis. Direct impacts consist of the direct net costs/savings associated with Rule implementation.

Black font indicates savings to employers. Red font indicates net costs.

Sources: Dun & Bradstreet; BAAQMD; Bureau of Economic Analysis; BAE, 2013.

In addition to the impacts resulting from employer implementation of the proposed Rule through a pre-tax commuter check program, existing employees using the program will see tax savings, effectively increasing their earnings.[18] Some of these earnings will in turn result in new expenditures in the Bay Area, with additional impacts as the new dollars circulate through the Bay Area economy. As shown in Table 14, the approximately $71 million in additional earnings retained in the Bay Area in 2015 are estimated to result in an additional $84 million in induced economic activity, resulting in 613 additional jobs. While these are small numbers relative to the overall Bay Area economy, these benefits are greater than those resulting from the overall increase in employer revenue resulting from implementation of the Rule.

[18] Impacts from earnings for new hires are already included in the analysis by sector as shown in in Table 13.

Table 14: Induced Impacts from Increased Household Earnings in 2015

Total Annual Employer Tax Savings, 2015	$70,614,594
Final Demand Output Multiplier	1.1905
Change in Output due to Change in Earnings	**$84,066,674**
Final Demand Employment Multiplier (per million dollars in tax savings)	8.6755
Change in Employment due to Change in Earnings	**613**

Multipliers to calculate impacts from Bureau of Economic Analysis RIMS II Input-Output model.

Sources: Dun & Bradstreet; BAAQMD; Bureau of Economics Analysis; BAE, 2013.

IMPACTS ON SMALL BUSINESSES

According to California Government Code 14835, a small business is any business that meets the following requirements:

- Must be independently owned and operated;
- Cannot be dominant in its field of operation;
- Must have its principal office located in California;
- Must have its owners (or officers in the case of a corporation) domiciled in California; and
- Together with its affiliates, be either:
  - A business with 100 or fewer employees, and an average annual gross receipts of $10 million or less over the previous three tax years, or
  - A manufacturer with 100 or fewer employees.

There are a number of firms covered by the Rule that meet these criteria. However, the analysis of the worst-case scenario above, of a hypothetical firm with 50 employees with no participation in a commuter check program (see Table 12 above) indicates that across all sectors, for a typical firm of this size with average revenues, the costs would not impact profits at anywhere near the Air Resources Board benchmark threshold of 10 percent of profits. This indicates that the impacts on small businesses would not be significant.