AFFORDABLE TRANSIT, AFFORDABLE NEW YORK: Guaranteeing the Transit Tax Break for Employees and Businesses
A report by the Riders Alliance: April 27, 2014.

APPENDIX: PROJECTIONS AND ANALYSIS

SCOPE

For the purposes of this analysis, the Riders Alliance limited projections to include people who work *and* live in New York City. Hundreds of thousands of other individuals would also benefit from an expansion of benefits availability, including individuals who work in New York City but live elsewhere, as well as those New Yorkers who would not receive benefits directly under this policy but whose household budgets would be positively impacted by members of their families receiving them. Thus, while these projections are limited solely to those constituents of New York City who would *directly* benefit, the actual impact would be substantially larger and more widespread.

ON SOURCES

For population, income, employee, and business size projections, this analysis relies on data from the MTA, IRS, and US Census gathered from 2005-2013. In all cases, we used the most-up-to-date figures available. For figures regarding the availability and use of transit benefits, our analysis relies almost entirely on a 2011 report by non-profit organization TransitCenter. This report analyzed and aggregated data gathered from New York City, San Francisco, and Chicago. It should be noted that the overall sample size was relatively small. In those instances when it was disaggregated, data gathered on New York City was in the range between the corresponding data from San Francisco and Chicago, and we thus feel comfortable using data averaged between the two cities. However, these factors have reduced the precision of our projections.

OVERVIEW

The goal of our analysis was to determine, if the proposed regulation passed requiring companies with 20 or more employees to offer those employees transit benefits:

- how many people who both live and work in New York City would newly be offered transit benefits, and how many of those would use transit benefits if they had access to them **(benefits access)**, and
- What the financial impacts would be for individuals, on the New York City economy, and on the tax revenue collected by the local, state, and federal governments **(benefits impact).**

To answer these two questions, the Riders Alliance researched a range of different sources, and then used those findings to derive our results. The following is a summary of researched and derived data, followed by relevant methodology, used to answer the access and impact questions above.

BENEFITS ACCESS: Under the proposed regulation, how many people who both live and work in New York City would newly be offered transit benefits, and how many of those would use transit benefits if they had access to them?

To determine the number of individuals working at companies with 20 or more employees who do not currently have access to transit benefits, we researched the proportion of the total population with access to benefits (2,336,536). We then determined the most and least reasonably possible number of individuals with benefits access at companies with fewer than 20 employees (between 93,437 and 227,714), and subtracted these from the total. What remained is the number of people working at companies with 20 or more employees who currently have access to transit benefits (2,108,822 – 2,243,098).

We then subtracted that figure from the total number of individuals who live in New York City and work at NYC companies with 20 or more employees. The result is the number of employees who would newly be offered benefits under the proposed regulation (471,116 – 605,392).

To determine how many of those individuals would use benefits if offered, we researched the utilization rate of transit benefits (32%). We then multiplied this rate by the number of new offers, yielding the total number of individuals expected to newly use transit benefits (150,757 – 193,725).

Below are the data and calculations used to arrive at these findings. The "#" column is a reference number sometimes used in the "Method" column to refer to previous data. The "Data" column describes the information we sought, and the "Finding" column states the results we found. The "Method" column explains our sources and any methodology not readily apparent.

#	Data	Finding	Method
1	Population of individuals who live and work in New York City	3,337,908 people	Researched. Source: US Census http://www.census.gov/hhes/commuting/files/ACS/Table3.csv
2	Ratios of New York employees at firms of different sizes	1-19 employees: 18.69% 20-99: 15.93% 100-499: 14.78% 500+: 50.61% Total at >20: 81.31%	Researched. Source: US Census https://www.census.gov/epcd/susb/latest/ny/NY--.HTM
3	Ratio of sub-ranges of New York State firms with 1-19 employees	1-19 employees: 100% 1-4: 72.41% 5-9: 17.47% 10-19: 10.12%	Researched. Divided the number of firms at each sub-range by the total number of 1-20-employee firms. Source: US Census https://www.census.gov/epcd/susb/latest/ny/NY--.HTM
4	Number of NYC firms with various numbers of employees	1-20: 179,000 20-99:14,604 100 or more: 7,882 Total: 201,486 *Projected:* *1-4: 129,607* *5-9: 31,726* *10-19: 18,117*	Researched. Source: US Census http://www2.census.gov/econ/susb/data/2011/county_totals_2011.xls Projections for 1-4, 5-9, and 10-19 employees made by applying the ratios in (3) to the number of 1-19-employee New York City
5	Percentage of employees currently offered transit benefits	70%	Researched. Source: TransitCenter study.
6	Percentage of employees offered benefits who use them	32%	Researched. Source: TransitCenter study.
7	Percent of firms with 1-99 employees offering benefits	18%	Researched. Source: TransitCenter study.
8	Percent of firms with 100-499 employees offering benefits	55%	Researched. Source: TransitCenter study.

#	Data	Finding	Method
9	Range of percentages of firms offering benefits for firms ranging from 1-99 employees (e.g., percent of firms with 1 employee offering benefits vs. percent of firms with 99 employees offering benefits).	Ranges from 0% - 55% depending on firm size.	Derived from (7) and (8). Reasoning: An average of 55% of 100-499-employee firms offer transit benefits. This analysis assumes that larger firms offer benefits at a higher prevalence than smaller firms. Therefore, firms of 20-99 employees cannot offer benefits at a higher prevalence than 100-499-employee firms.
10	55% of 20-99-employee firms (the maximum number of firms of that size offering benefits).	8,032 businesses	Derived. Multiplied figure from (4) by 55%.
11	Number of employees at 20-99-person firms offered benefits if 55% of firms offer benefits, evenly distributed across firms of different sizes	531,730 workers	Derived. Multiplied the total number of employees living and working in New York City (1) by the portion working at 20-99-person firms (2) Multiplied the result by 55%.
12	Number of 1-19-employee firms offering transit benefits if 55% of 20-99-employee firms offer benefits	34,809 firms	Derived. Per (7), 18% of 1-99-employee businesses offer benefits. Per (4), there are 193,604 1-20-employee firms offering transit benefits. 18% of 193,604 firms is 34,809 firms.
13	Percentage of 1-19-employee firms offering transit benefits if 55% of 20-99-employee firms offer benefits	14.89%	Derived. From (12), 34,809 firms with 1-19 employees offer transit benefits. From (4), there are a total of 193,604 New York City firms with 1-19 employees. 34,809 is 14.89% of 193,604.
14	Low-bound estimate of number of employees at 1-19-person firms currently offered transit benefits	94,437 employees	Derived. From (13), if 14.89% of firms (34,809 total firms) with 1-19 employees offer benefits, the lowest possible number of employees at these firms with access to transit benefits would be in a scenario that maximizes the number of the smallest firms offering benefits. Such a distribution is derived by assuming an even distribution of benefits across firms of all sizes between 1-19 employees. Per (2), 18.69% of employees work at firms with 1-19 employees. Per (1), there are 3,337,908 people who live and work in New York City. 14.89% of 18.69% of 3,337,908 yields 94,437 people who live and work in New York City, are employed at firms with 1-19 employees, and are currently offered transit benefits.

#	Data	Finding	Method
15	High-bound estimate of number of employees at 1-19-person firms currently offered transit benefits	227,714 employees	Derived. From (13), if 14.89% of firms (34,809 total firms) with 1-19 employees offer benefits, the highest possible number of employees at these firms with access to transit benefits is derived by maximizing the number of larger firms offering transit benefits. We assume 55% of firms with 10-19 employees (9,964 businesses), 52.86% of 5-9-employee businesses (16,534 businesses), and 0% of 1-4-employee businesses offer transit benefits. We then assume an even distribution of transit benefits among firms of different sizes within each of those ranges. Using the population from (1), and the percentages of employees at firms of different sizes from (2) and (3), we calculate that 102,147 employees at 5-9-employee firms, and 125,567 at 10-19 person firms are offered transit benefits, for a total of 227,714 employees.
16	Range of employees at firms with 20 or more employees who are currently offered benefits	2,108,822 – 2,243,098	Derived. Subtracting (14) and (15) from 70% (5) of the total population of people who live and work in New York City yields the total number of individuals at firms with 20 or more employees who are currently offered benefits.
17	Number of employees who live and work in New York City, and work at firms with 20 or more employees	2,714,214 people	Derived. Multiplied the total population from (1) by 70%, the percentage of employees currently offered benefits (5).
18	Range of employees at firms with 20 or more employees *not* currently offered benefits, who would receive benefits under the proposed legislation	471,116 – 605,392	Derived. Subtracted the range derived in (16) from (17).
19	Number of employees who would newly be offered transit benefits under the proposed regulation, and who would use those benefits.	150,157 – 193,725	Derived. Multiplied the range in (18) by 32%, the percentage of people offered transit benefits who use them.
20	Total number of people who currently use transit benefits	747,691	Derived. Per (5), 70% of the population is offered transit benefits. Per (6), 32% of those offered benefits use them. Multiplying the population in (1) by the ratios in (5) and (6) yields 747,691.
21	Total number of people who would use transit benefits under the proposed regulation	898,448 – 941,417	Derived by adding (20) to the range in (19).

BENEFITS IMPACT: What would the financial impacts be for individuals, on the New York City economy, and on the tax revenue collected by the local, state, and federal governments?

Note: this section will continue the numbering system in the Benefits Access section above, and will make reference to those calculations where relevant.

Having derived the number of people who would have access to transit benefits under the proposed regulation, we then calculated their financial impact. First, we calculated how much money the New Yorker making the median New York City wage ($33,711) would save if he bought a $112 monthly Metrocard every month ($1,344 per year) with pre-tax dollars, and found that the tax savings would be $443 per year. We also calculated the amount his employer would save in avoided FICA tax—7.65% of the total expenditure, or $102.82/year.

We then derived the total economic impact on New York employees and businesses, as well as on the tax revenue decreases to local, state, and federal governments. To do this, we calculated the expected marginal tax rate on the average (mean) each income decile (i.e., the ten 10% ranges of New Yorker salaries) for New York City earners, and then calculated the impact of a $1,344 tax deduction at that rate. We multiplied the average savings of each decile by 10% of the total population expected to use the benefit. (The lowest decile is not subject to local, state, or federal taxes and therefore has no incentive to participate. In our calculations, we therefore disregarded the lowest decile, and increased the projected financial impact uniformly across the other nine deciles by a concomitant 11.1%.)

When we added up the savings across the deciles, and found that the proposed regulation would save New York employers and businesses between $85 million and $109 million each year. We also found that $6.8-$8.8 million of that total would come from New York City income tax revenue, and $11-$14 million in tax revenue would not be collected by the State of New York.

#	Data	Finding	Method
22	The wage of the median earner in New York City	$33,711	Researched. Source: US Census. http://quickfacts.census.gov/qfd/states/36/3651000lk.html -- choose "economic characteristics"

#	Data	Finding	Method
23	Annual savings by the median worker spending $112 per month ($1,344 per year) on Metrocards	$443	Derived. Calculated the marginal tax rate at $33,711, and the rate at $32,367 (an effective deduction of $1,344) for a single filer taking standard deductions on 2014 New York City, New York State, and Federal income taxes. Source: New York City and State income tax rates -- http://www.tax.ny.gov/pdf/current_forms/it/it2105i.pdf Federal income tax rates -- http://www.forbes.com/sites/kellyphillipserb/2013/10/31/irs-announces-2014-tax-brackets-standard-deduction-amounts-and-more/
24	Annual savings by the employer of the median worker spending $112 per month ($1,344 per year) on Metrocards	$102.82	Derived. Employers pay 7.65% payroll tax on all earnings up to $117,000. 7.65% of $1,344 is $102.82.
25	New York City mean annual income of each decile (top decile further divided)	1st decile (lowest): $988 2nd: $6,587 3rd: $11,543 4th: $17,270 5th: $24,353 6th: $32,804 7th: $43,377 8th: $57,881 9th: $83,790 91-95%:$127,398 96-99%:$247,022 Top 1%: $2,247,515	Researched. Source: Letter to Councilman James S. Oddo, City of New York Independent Budget Office, December 6, 2011. http://www.ibo.nyc.ny.us/iboreports/120611letterwenc.pdf
26	Combined city, state, and federal savings of a $1,344 deduction at the mean annual income of each decile (top decile further divided)	1st decile (lowest): $0.00 2nd: $262.74 3rd: $327.41 4th: $406.56 5th: $433.45 6th: $443.53 7th: $577.91 8th: $577.91 9th: $579.27 91-95%: $558.17 96-99%: $638.40 Top 1%: $750.22	Derived. At each income level in (25), we found the marginal tax rate using the data from (23). We then calculated the savings at that tax rate.

#	Data	Finding	Method
27	Aggregate projected tax savings for employees from new transit benefits users	$70,658,958 – $90,758,000	Derived. We multiplied the mean savings of each decile by the percent of the population it represented. Because the lowest decile would save nothing through this program, it is presumed they would not participate. To adjust for this, the remaining deciles were increased by 11.1% (i.e., divided by 90%, the new total). The results were then multiplied by the new transit benefits users estimated in (19).
28	Aggregate projected tax savings for employers from new transit benefits users	$14,244,012 - $18,303,805	Derived. The marginal payroll tax on the first nine deciles is 7.65%. The marginal payroll tax on the remaining decile is 1.45%. As with previous calculations, we eliminated the lowest decile and adjusted the other figures accordingly. We then multiplied each decile by the appropriate percentage (7.65% or 1.45%) of $1,344, and multiplied it by the projection of new transit benefits users in (19).
29	New York City income tax revenue loss	$6,827,051 - $8,772,881	Derived. City income tax revenue loss of a $1,344 deduction at each of the income decile means in (25) was calculated at each decile using the rates provided in (23). The amounts were then aggregated and multiplied by the projection of new transit benefits users in (19).
30	New York State income tax revenue loss	$10,910,307 - $14,019,936	Derived. State income tax revenue loss of a $1,344 deduction at each of the income decile means in (25) was calculated at each decile using the rates provided in (23). The amounts were then aggregated and multiplied by the projection of new transit benefits users in (19).