

PROPOSED MASSACHUSETTS TAX EXPENDITURES EVALUATION SUMMARY

EVALUATION YEAR: 2021-2022

TAX EXPENDITURE TITLE	Exemption for Cement Mixers
TAX EXPENDITURE NUMBER	3.109
TAX EXPENDITURE CATEGORY	Exempt Products/Services
TAX TYPE	Sales and Use tax
LEGAL REFERENCE	M.G.L. c. 64H, § 6(y)
YEAR ENACTED	1971
REPEAL/EXPIRATION DATE	None
ANNUAL REVENUE IMPACT	Average annual tax loss of \$1.6 million during FY19 to FY23.
NUMBER OF TAXPAYERS	Not Available
AVERAGE TAXPAYER BENEFIT	Not Available

Description of the Tax Expenditure: Concrete mixing units mounted on the back of trucks are exempt from sales tax. Spare parts for such units are also exempt. The truck chassis is subject to sales tax.	Is the purpose defined in the statute? The statute does not explicitly state the purpose of this tax expenditure.
What are the policy goals of the expenditure? DOR assumes that the tax expenditure is intended to spur economic development through construction projects, and to ensure that tax is imposed only on finished products, rather than multiple times on companies during construction.	Are there other states with a similar Tax Expenditure? No New England state has a similar statutory exemption (New Hampshire does not have a sales tax). However, cement mixers and repair parts may be exempt in other states as machinery used in manufacturing. New York, for example, does not have a statutory exemption for cement mixers, but the mixers are exempt as manufacturing machinery. In addition, because of a tax court ruling, concrete mixer trucks (including the chassis) may also qualify for the exemption in New York.

INTRODUCTION

The tax expenditure exempts concrete mixing units mounted on the back of trucks from the sales and use tax. Spare parts for such units are also exempt. However, the truck chassis is subject to sales and use tax.

The Massachusetts sales tax (and complementary use tax) is a transaction tax that applies to retail sales of tangible personal property (including prewritten computer software regardless of mode of transfer) and enumerated services (currently including only telecommunication services). A retail sale is any sale other than a sale for resale. A sale for resale occurs when a business purchases an item and sells it to a third party in substantially the same form in which it was purchased. All retail sales are taxable unless an exemption applies. These exemptions are tax expenditures because they prevent the imposition of tax on transactions that would otherwise be taxable.

While the sale tax is imposed on retail sales, it is not necessarily a tax on final consumption by households, as is the case with the value added taxes (VATs) imposed in most other countries. A retail sale to a business may also be subject to sales tax (e.g. paper, desks, or computers, etc., purchased for office use would generally be taxable.) The exclusion of sales for resale and the application of certain exemptions prevents the imposition of the tax on many business inputs, but other business inputs remain taxable. Aside from specific statutory exclusions and exemptions, there is no general prohibition in the sales and use tax statutes on the application of the tax to retail sales at multiple stages of the production and sales process.

Absent the exemption afforded by this tax expenditure, suppliers of concrete would be required to pay sales or use tax when they purchase concrete mixing units mounted (or to be mounted) on trucks. The sale for resale exclusion does not apply to the supplier's purchases of cement mixing units or the truck chassis because the supplier is not reselling either item. The truck chassis is subject to sales or use tax because it is being sold at retail and no exclusion or exemption applies. This is so even though the truck chassis represents a business input of the purchaser.

POLICY GOALS

DOR assumes that the policy goal of this expenditure is to spur economic development through construction projects. It also furthers the general policy goal evident in other expenditures of taxing only finished products, and not the components that make those products.

DIRECT COSTS

The revenue loss resulting from this tax expenditure is estimated to be \$1.6 - \$1.7 million per year during FY19-FY23 (see Table 1 below).¹

**Table 1. Tax Revenue Loss Estimates for Sales Tax Exemption
for Cement Mixers**

Fiscal Year	2019	2020	2021	2022	2023
Estimated Revenue Loss (\$Million)	\$1.6	\$1.6	\$1.6	\$1.7	\$1.7

DIRECT BENEFITS

The Massachusetts businesses that produce, buy, and sell the exempt product are the direct beneficiaries of the sales tax exemption. Buyers benefit from the sales tax exemption in the form of paying a lower “after tax” price while sellers benefit in the form of receiving a higher “before tax” price. The exact split of the direct benefits depends on the interaction of demand and supply and is often difficult to quantify. Out-of-state businesses selling exempt product to Massachusetts businesses are also direct beneficiaries.

Buyers of this exempt product are mostly, if not all, businesses in the construction industry. Table 2 below indicates that Massachusetts had 19,181 construction firms in 2017 according to the US Census Bureau.² These firms employed 140,470 people generating \$10,415.7 million in annual payroll and \$51,184.4 million in annual sales. The last row of the table also shows the relative size of the Massachusetts construction industry to that of the nation in terms of different variables.

**Table 2. Annual Payroll, Sales, and Employment of the Construction Industry in
Massachusetts and Nationwide**

Area Name	2017 NAICS Code	Meaning of NAICS Code	Number of Firms	Number of Establishments	Sales, Value of Shipments, or Revenue (\$Millions)	Annual Payroll (\$Millions)	Number of Employees
United States (US)	23	Construction	701,329	715,364	\$1,994,166.0	\$398,815.5	6,647,047

¹ DOR does not have in-house data to measure sales of the exempt products. The estimates reported in Table 1 are based on data from the U.S. Census Bureau, market research firms such as IMARC Group and Fact.MR, and other sources. Due to the use of external data and the limitations of these data for estimating this tax expenditure, the estimates may have a high estimation uncertainty and should be used with caution.

² Note that, DOR does not have an estimate of the number of construction firms that would actually buy the exempt products.

Massachusetts (MA)	23	Construction	19,181	19,250	\$51,184.4	\$10,415.7	140,470
% MA/US			2.7%	2.7%	2.6%	2.6%	2.1%

Source: The U.S. Census Bureau, 2017 Economic Census, which is the most recent version of Economic Census. The 2022 Economic Census has yet to be released.

Table 3 below reports data from the 2018 Statistics of U.S. Businesses (SUSB) for firms in the construction industry by employment size. The table shows that the majority of firms in the industry are small businesses with over ninety percent employing less than 20 people each (more than 93% or 18,265 divided by 19,608).

Table 3. Annual Payroll and Employment of Construction Industry by Enterprise Employment Size in Massachusetts

2017 NAICS Code	Meaning of NAICS Code	Enterprise Size	Number of Firms	Number of Establishments	Annual Payroll (\$Millions)	Number of Employees
23	Construction	Total	19,608	19,680	\$11,385	144,846
23	Construction	<5 employees	13,960	13,960	\$1,240	21,356
23	Construction	<20 employees	18,265	18,266	\$3,660	59,132
23	Construction	<500 employees	19,503	19,524	\$9,400	124,975
23	Construction	500+ employees	105	156	\$1,986	19,871

DOR does not have data on producers and retailers of the exempt product. The 2017 economic census indicates that there were 41 establishments producing concrete mixers in the U.S.³, generating \$329.8 million in annual sales. Given that the global cement mixer market reached a value of US \$13 billion in 2020⁴, the market share of U.S. made cement mixers is relatively small.

EVALUATION: COMPARING COSTS AND BENEFITS

In the previous sections, we report the direct costs (to the Commonwealth, or to the residents and businesses who ultimately bear the costs when the Commonwealth cuts government spending or increases taxes to finance the sales tax exemption for the exempt product (concrete mixing units or replacement parts mounted on truck chassis) and direct benefits (to buyers and sellers of exempt product) of this tax expenditure. In this instance, the direct costs to the Commonwealth, namely the sales tax that would have been collected from these transactions, are equal to the direct benefits afforded by the tax expenditure to buyers and sellers of the exempt product, which is the sales tax the buyers would have had to pay to the Commonwealth.

³ Product with 2017 NAPCS collection code of “2012775003”.

⁴ <https://www.imarcgroup.com/cement-mixer-market>.

Besides the direct costs and benefits, there are indirect and induced costs and benefits associated with this tax expenditure. The indirect impact (cost or benefit) is felt by the chain of businesses that provide intermediate products and services to the directly impacted businesses. The induced impact (cost or benefit) occurs when a directly or indirectly impacted business passes on the costs or benefits to households, such as those of its employees, in the form of lower or higher income, such as wages and salaries, who then in turn reduce or increase purchases of goods and services from other businesses. The total costs or benefits to the whole economy are larger than the initial direct impacts. This phenomenon is called the “Multiplier Effect”.⁵

To measure these indirect and induced costs and benefits, economists often need to utilize complicated models, such as REMI (Regional Economic Models, Inc.) or IMPLAN (Impact Analysis for Planning) models. DOR did not attempt to use such models given their complexity and the data limitations present in this instance.

Besides the economic costs and benefits discussed so far, one may also want to consider the factor of externality when evaluating this tax expenditure. A negative or positive externality occurs when the production and/or consumption of a good or service exerts a negative or positive effect on a third party independent of the transaction. For example, water, sand, gravel (or crushed stone), and the binder of cement combine to produce concrete. To acquire these aggregates involves quarrying, which in turn create large amounts of dust, and the kilns that are used in the process that ultimately produces cement require significant amounts of energy as they need to reach a temperature of approximately 1,500 degrees centigrade⁶. A by-product of this process is large amounts of carbon dioxide (CO₂). By encouraging these activities, this tax expenditure will aggravate the problem of negative externality such as noise and pollution if there are no other policies to offset the impact. On the other hand, by encouraging the construction of infrastructure, such as roads, bridges, airports, and other products that are often viewed as “public goods”, this exemption generates positive externalities.

If a business must pay sales tax on concrete mixers and parts, then that tax becomes part of the cost of the construction projects. The business must then collect sales tax on its own products, if taxable, based on higher price that compensates for higher capital cost (higher cost of plants, infrastructure), with the result that a tax is being charged on a price that already contains taxes. This tax pyramiding invariably results in some industries being taxed more heavily than others, which violates the principle of neutrality and causes

⁵ For an illustration of “Multiplier Effect”, see Slide 4 of: <https://www.ilw.com/seminars/JohnNeillCitation.pdf>

⁶ Rogers, L., (December 17, 2018). ‘Climate change: The massive CO2 emitter you may not know about. *BBC News, Science*. <https://www.bbc.com/news/science-environment-46455844>

economic distortions. From the standpoint of avoiding tax pyramiding, this tax expenditure meets the policy goal.

Similar Tax Expenditures Offered by Other States

No other state has a statutory exemption specifically exempting cement mixers.

However, 35 states, including the other New England states with a sales tax, generally exempt cement mixers as manufacturing equipment or machinery. Generally, most of these states also have an exemption for parts for manufacturing equipment and machinery.

4 states (including New York) also exempt the truck chassis.