

## NAFTA Briefing:

Review of current NAFTA proposals and potential impacts on the North American automotive industry



Kristin Dziczek

Michael Schultz

Bernard Swiecki

Yen Chen

## Table of Contents

Acknowledgments.....	iii
Executive Summary.....	iv
Introduction .....	1
The Current State of NAFTA Renegotiations .....	3
Methods, Data, and Assumptions.....	5
Evaluation of the Potential Impacts of the Proposed Regional Value Content Requirements for Vehicles and Parts .....	7
Evaluation of the Potential Impacts of the Combined Proposed Regional Value Content and Labor Value Content Requirements.....	8
Summary Evaluation of the Current U.S. NAFTA Rule of Origin Proposal .....	10

## Acknowledgments

This briefing is the result of a group effort. The authors would like to thank our network of industry and government contacts for their input as well as our colleague Diana Douglass at the Center for Automotive Research for her assistance with this briefing. The Trade Leadership Coalition provided funding for this briefing.



3005 Boardwalk, Suite 200  
Ann Arbor, MI 48108  
[www.cargroup.org](http://www.cargroup.org)

*CAR's mission is to conduct independent research and analysis to educate, inform and advise stakeholders, policymakers, and the general public on critical issues facing the automotive industry, and the industry's impact on the U.S. economy and society.*

*For citations and reference to this publication, please use the following:*

Dziczek, K., Schultz, M., Chen, Y., & Swiecki, B. (2018). *NAFTA Briefing: Review of current NAFTA proposals and potential impacts on the North American automotive industry*. Center for Automotive Research, Ann Arbor, MI.

## Executive Summary

The automotive Rules of Origin (ROO) are a fundamental part of the North American Free Trade Agreement (NAFTA). Current proposals for the automotive ROO include: raising the threshold for the Regional Value Content (RVC), adding a requirement on the share of NAFTA steel and aluminum in certain parts, and adding a requirement that at least 30 percent of a vehicle's content be produced in a country where labor earns more than the median North American wage for automotive manufacturing.

This briefing provides an overview of current automotive and parts manufacturing trends in the NAFTA region and estimates the impact of the proposed changes to the automotive ROO. Key points include:

- **The U.S. cannot self-supply:** There is more demand for light vehicles in the United States than U.S. producers can supply. In 2017, U.S. production totaled 11 million units, and sales were 17.3 million.
- **U.S. light vehicle production is split between domestic and international firms:** 56 percent of light vehicles sold in the United States in 2017 were produced in U.S. assembly plants; most of these vehicles were produced by U.S.-based firms, but more than 25 percent of vehicles sold in the United States in 2017 were made in the United States by international automakers.
- **NAFTA partners provide half of all U.S. light vehicle imports:** In 2017, 44 percent of U.S. vehicle sales were imported; of these vehicles, half were manufactured in Canada or Mexico (11 percent each). Vehicles imported to the United States from Mexico contain approximately 20 to 30 percent U.S. content.
- **NAFTA makes North American vehicle production internationally competitive:** North America is the third largest producer of light- and medium-duty vehicles and second largest producer of automotive parts in the world. International automakers from Asia and Europe have built over 27 production plants in the United States to take advantage of NAFTA preferences.
- **NAFTA makes North America a complete automotive region:** Low- and high-wage jobs are distributed to optimal regional locations based on cost, capability, and proximity to critical assets.
- **Every global automotive producing region relies on low-cost content to be competitive:** If U.S. automakers do not rely on Mexico, they will find other sources for low-cost automotive parts; in 2017, 31 countries each imported more than USD 100 million in automotive parts to the United States.
- **The automotive industry in the NAFTA region supports consumer choice and new vehicle affordability:** The new vehicle consumer price index (CPI) rose 7 percent since NAFTA went into force in 1994, yet the overall CPI is up 86 percent since 1994.
- **High NAFTA content requirements could result in less U.S. automotive and parts manufacturing:** If the cost of meeting the NAFTA ROO exceeds the MFN tariff plus any transportation and logistics costs, then production will move outside of North America to lower-cost regions. Roughly 20 percent of 2017 U.S. parts imports from Canada and Mexico do not use the NAFTA trade preference.
- **High content requirements raise the cost of U.S. vehicle and parts production and negatively impacts exports:** The United States exports 22 percent of the total vehicles made in the country to our NAFTA trading partners and beyond. Over 71 percent of U.S. vehicle exports go to Canada and Mexico. Raising production costs will limit the ability of U.S.-built vehicles to compete in the global marketplace, and will negatively impact U.S. production and employment.

## KEY FINDINGS

- **Unintended consequences:** Setting a very stringent automobile ROO with the goal of bringing manufacturing back to the United States and the NAFTA region could have the opposite effect if the content targets are set too high, or the rules are too onerous.
- **The current U.S. proposal would disrupt the market:** Under the current U.S. proposal, at least 46 and as many as 125 vehicle nameplates would be disqualified from trade using the NAFTA preference. In 2017, the 46 nameplates represented a combined 25 percent of U.S. sales and the 125 nameplates represented a combined 87 percent of U.S. sales.
- **Increased consumer costs:** CAR estimates the current U.S. proposal could result in Most Favored Nation (MFN) tariffs that add at minimum a USD 2.1 to 3.8 billion tax on U.S. consumers. The tariffs would add between USD 470 and USD 2,200 to the cost of these particular vehicles.
- **Lower U.S. vehicle sales:** If the manufacturers pass through the entire cost of the tariff to consumers, the result would be an estimated loss of 60,000 to 150,000 annual U.S. light vehicle sales.
- **Fewer U.S. Auto Exports:** The U.S. currently exports 2.4 million vehicles per year to our trading partners, representing 22 percent of total U.S. production. The U.S. proposal would raise the cost of production, incur tariffs on U.S. vehicle exports that do not meet the higher NAFTA content threshold and result in fewer U.S. vehicle exports.
- **The U.S. Labor Value Content proposal would lead to less North American automobile industry production:** Average wages in the Mexican automotive and parts industries fall so far short of the North American average that paying the MFN rate for Mexican exports will be the preferred strategy for nearly all manufacturers of vehicles that are not classified as trucks. Once manufacturers have to pay the MFN tariff, the work could move even further offshore with an even lower chance of there being any U.S. content in the resulting product.
- **The U.S. proposal aims to increase U.S. and NAFTA automotive and parts production capacity, but the U.S. market is not growing to support new capacity:** Automakers are meeting peak North American consumer demand with existing global capacity. Global overcapacity poses financial risks to the companies, and automakers and suppliers are cautious about investment decisions since overcapacity compounded the industry's financial problems in the recent recession. Firms will not duplicate their offshore investments in the United States unless the cost of building new capacity is lower than the cost of an MFN tariff strategy.
- **The proposed three-year transition period is inadequate:** Three years is the absolute minimum amount of time required for new capacity to come on-line. There are often delays in the process of identifying the need for new capacity, securing corporate approval for the decision, arranging financing, selecting the site, negotiating state and local incentives, constructing the plant, installing the equipment, and launching production. Adjusting and re-sourcing the supply chain also takes significant time.

## Introduction

The U.S. automotive industry is heavily dependent on trade within the North American Free Trade Agreement (NAFTA) region. Current proposals to change how NAFTA works in the automotive and parts industries have the potential to alter these U.S. industries dramatically.

Enacted in 1994, NAFTA eliminated tariffs, created a unified trading region, and allowed vehicle manufacturers and suppliers to remain competitive with growing global competitors. The renegotiation of NAFTA is ongoing, and proposals are changing every day. This briefing examines many of the current issues on the table and the potential impact of those proposals on the U.S. and North American automotive and parts industries.

The NAFTA region is the third largest producer of light- and medium-duty vehicles and second largest producer of automotive parts in the world. The North American light- and medium-duty motor vehicle market is estimated to be worth USD 728 billion annually, which together represents roughly 28 percent of the global market for new vehicles (Ward's World Motor Vehicle Data, 2017).

The automotive and parts industries are truly global. While the United States produced nearly 11 million light vehicles in 2017, light vehicle sales were 17.3 million. The U.S. market partially depends on imports to meet consumer demand for light vehicles, and in 2017, imports to the United States totaled over 8.7 million units. Automakers that make vehicles in the United States also exported 2.4 million vehicles last year.

*Figure 1: 2017 U.S. Light Vehicle Production, Exports, Imports & Sales*

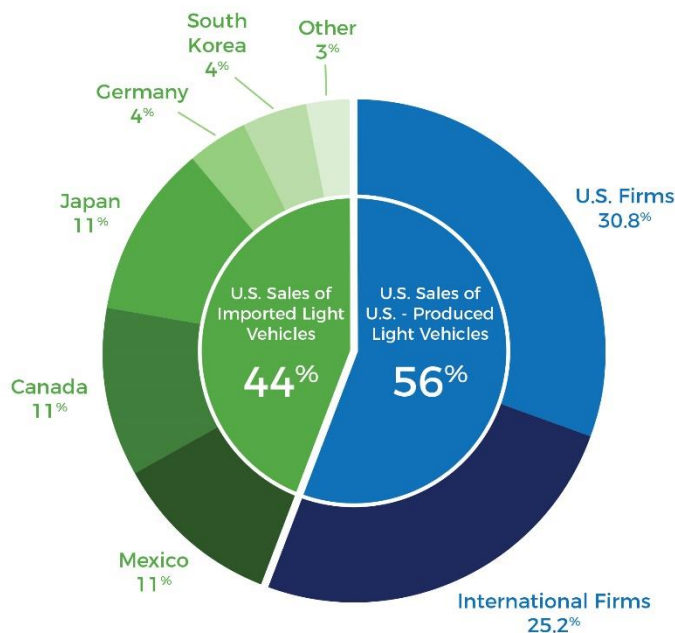


*Source: IHS|Markit*

Of the light vehicles sold in the United States in 2017, U.S. auto assembly plants produced 56 percent. U.S.-based firms (FCA, Ford, GM, and Tesla) manufactured just over half of those U.S.-produced and U.S.-sold vehicles. International firms produced over one-fourth of all U.S. light vehicles sold in 2017 in their U.S. factories (primarily BMW, Daimler, Honda, Hyundai, Kia, Renault-Nissan, Subaru, Toyota, and Volkswagen). The import share of the U.S. light vehicle market is 44 percent, with Canada, Japan, and Mexico each contributing 11 percent of the market. Three of the four U.S.-based automakers (FCA, Ford, and GM) are responsible for more than 35 percent of U.S. light vehicle imports—vehicles they manufacture in plants outside the United States for sales in the U.S. and other global markets;

international firms produce the remaining 65 percent of U.S. imports. Figure 2 summarizes the sourcing of U.S. light vehicle sales in 2017.

Figure 2: Sourcing of U.S. Light Vehicle Sales, 2017



Source: CAR analysis of IHS/Markit data

Automotive production in the NAFTA region is very interconnected with automakers and suppliers sourcing parts and components throughout the region. Canada and Mexico supply U.S. plants with over USD 58.7 billion in motor vehicle parts—over half of all parts imports to the United States. In turn, the United States sends over 71 percent of the country’s motor vehicle exports to either Canada or Mexico.

Even for vehicles built outside the United States, automakers’ decisions on where to build their products have a substantial impact on the U.S. economy. There is more U.S. content in the average Canadian- or Mexican-built vehicle than there is in a vehicle assembled in any other country. Per CAR estimates of NAFTA content, the typical Mexican-assembled vehicle includes between 20 and 30 percent U.S. and Canadian content. In contrast, the average vehicle imported from outside the region has North American content of just 3.5 percent. For a specific example, consider the Chevrolet Trax: the North American content in the Mexican-assembled Trax is 67 percent, while the South Korean-assembled Trax has North American content of just 4 percent.

As another example, in 2017, Ford Motor Company decided to cancel its planned move of Focus production to Mexico and to source the Focus from an existing plant in China instead. The direct consequence of that decision is that there are fewer U.S. jobs assembling the major components (engines, transmissions) and other parts for the Focus as those parts are primarily sourced in Asia for Chinese production. At the same time, the Michigan plant that currently produces the Focus will be retooled to build the Ford Ranger and later the Bronco. These vehicles will mainly use engines sourced from Ford Engine plants in Cleveland and Lima, Ohio, and transmissions will primarily come from the company’s Livonia, Michigan transmission facility. Depending on other sourcing information not yet publicly available and the sales volumes for these vehicles, the Michigan plant will likely support more

U.S., Canadian, and Mexican jobs than it did when producing the Focus and previous models in that Michigan plant. The product allocation is a net positive for the United States, but the economic impact could have been stronger still had Focus production moved to Mexico instead of China.

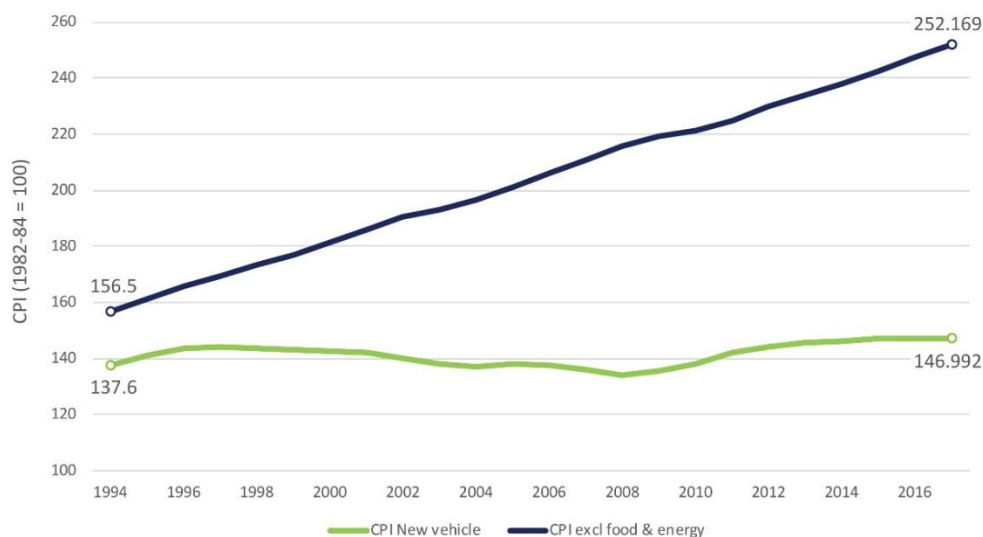
Similarly, when an international automaker decides to localize production in one of the NAFTA countries, those vehicles tend to have higher U.S., Canadian, and Mexican content than they would have otherwise had if the company continued to import the vehicle from a non-NAFTA country. The automotive industry's emphasis on limiting logistics costs through localized supply chains and the need to supply some parts and components "just in time" to the assembly plant results in new opportunities for the regional supply base. The potential for regional sourcing is even higher for those international automakers that have North American engine and transmission operations.

Trade is an essential element of a healthy and competitive U.S. automotive and parts industry. Trade allows the U.S. industries to:

- Remain cost competitive with production in other global regions and support U.S. exports,
- Specialize in the areas of the motor vehicle and parts industries where the U.S. has a comparative advantage, and
- Achieve economies of scale for production of vehicles that do not sell as well in the U.S. market as they do in other global regions and for commodity parts and components.

The U.S. consumer benefits from the resulting choice of models available to purchase, and the overall affordability of new vehicles. Figure 3 shows that while consumer prices have risen 86 percent since NAFTA came into being in 1994, new vehicle prices have only gone up by 7 percent over the same period.

Figure 3: U.S. Consumer Price Indices for All Items, All Items-Except Food & Energy, and New Vehicles, 1990-2017



Source: U.S. Bureau of Labor Statistics, 2018

## The Current State of NAFTA Renegotiations

Canada, Mexico, and the United States kicked off the renegotiation of the now 24-year-old treaty in August 2017, and have since concluded seven formal rounds of talks to determine the parameters of a



new NAFTA. At the time of this writing, the current U.S. proposal for the automotive chapter contains several fundamental changes to the Rules of Origin (ROO)—the way in which motor vehicles and parts will qualify for NAFTA preference under the new agreement. The U.S. proposal has not yet been agreed to by the negotiating teams from Canada or Mexico. There are three main areas of change: Regional Value Content (RVC), Steel and Aluminum Content, and Labor Value Content (LVC).

- Regional Value Content (RVC)
  - The existing RVC requirement is that NAFTA-produced light vehicles must have 62.5 percent NAFTA-originating content to qualify for the trade preference. This threshold is the highest RVC of any current U.S. trade agreement.
  - The U.S.-proposed changes include:
    - Changing the basis from light vehicles to include both light- and medium-duty vehicles,
    - Raising the 62.5 percent to 75 percent over the course of three years,
    - Increasing the RVC threshold for “core” auto parts<sup>1</sup> to 75 percent, “principal” auto parts to 70 percent, and “complementary” parts to 65 percent,
    - Requiring that “core” parts be originating—i.e., that these parts meet the 75 percent RVC threshold for these parts or the vehicle they are installed in to receive NAFTA trade preference, and
    - Eliminating both the existing tracing list<sup>2</sup> and the “deemed originating” concept that allows automakers to roll-up the value of parts not on the tracing list to the value of the component or system.
- Steel and Aluminum Content
  - The existing NAFTA agreement does not trace steel and aluminum content.
  - The U.S. proposal requires at least 70 percent North American-sourced steel and aluminum for production of “core” parts.
- Labor Value Content (LVC)
  - The existing NAFTA agreement has a side agreement for labor standards but does not incorporate LVC in the ROO determination.
  - The U.S. proposal requires at least 30 percent of the content of a vehicle originate in a country where the labor earns more than the median North American wage for automotive manufacturing, which is in the range of USD 15-16/hour.
  - Additionally, manufacturers can meet up to 5 percent of the LVC requirement by counting certain R&D expenditures that the companies make within the NAFTA region.
  - The LVC is operationally a carve-out for 30 percent U.S. and Canada content in any vehicle traded using NAFTA preferences. Average assembly and parts hourly wages are above USD 20/hour in both Canada and the United States; Mexican average wages for auto assembly were USD 7.34/hour, and USD 3.41/hour for automotive parts in 2017.<sup>3</sup>
- The U.S. proposal calls for a three-year transition period during which RVC will ramp up by five percentage points each year.

---

<sup>1</sup> Understood to be engines, transmissions, bodies, axles, steering & suspension systems, and advanced batteries.

<sup>2</sup> The existing tracing list can be found in [NAFTA Annex 401 – Specific Rules of Origin](#)

<sup>3</sup> Source: Mexico Instituto Nacional de Estadística y Geografía (INEGI): Encuesta mensual de la industria manufacturera

## Methods, Data, and Assumptions

Many of the details of how the U.S. proposal will be operationalized are not yet available. What is more, current and historical NAFTA content data are not publicly available. CAR had to make certain assumptions; this section documents those assumptions.

The dollar value of NAFTA trade in motor vehicles and parts is available from several sources; CAR chose to use the data published by the U.S. International Trade Commission. In 2017, nearly all vehicles imported from Canada (98.4 percent) and Mexico (99.8 percent) were traded using the NAFTA preference—which means they meet the current 62.5 percent parts RVC. Motor vehicle parts are a different story; a significant share of parts imports from Canada (15.7 percent) and Mexico (23.1 percent) eschew the NAFTA and Civil Aircraft trading preferences.<sup>4</sup> Many of these parts face an average 2.5 percent tariff when imported to the United States—the same “Most Favored Nation” (MFN) tariff rate that the United States imposes on parts imports from any of the 161 other members of the World Trade Organization (WTO).<sup>5</sup>

*Table 1: 2017 U.S. Motor Vehicle, Bodies & Trailers, and Parts Imports from Canada and Mexico by Trade Program (USD Billions)*

YEAR: 2017 in USD Billions		NAFTA	Civil Aircraft	No Program Claimed	Total	NAFTA share of Total
CANADA	Motor Vehicles	43.6	-	0.7	44.3	98.40%
	Motor Vehicle Bodies & Trailers	0.5	-	0.4	0.9	56.20%
	Motor Vehicle Parts	11.1	0.04	2.0	13.2	84.30%
	<b>CANADA TOTAL</b>	<b>55.2</b>	<b>0.04</b>	<b>3.1</b>	<b>58.4</b>	<b>94.50%</b>
MEXICO	Motor Vehicles	57.5	-	0.1	57.7	99.80%
	Motor Vehicle Bodies & Trailers	0.05	-	1.4	1.5	3.50%
	Motor Vehicle Parts	34.6	0.01	10.3	45.0	76.90%
	<b>MEXICO TOTAL</b>	<b>92.2</b>	<b>0.01</b>	<b>11.8</b>	<b>104.2</b>	<b>88.50%</b>
<b>CANADA/MEXICO TOTAL</b>		<b>147.5</b>	<b>0.1</b>	<b>15.0</b>	<b>162.6</b>	<b>90.70%</b>

Source: U.S. International Trade Commission

The American Automobile Labeling Act (AALA) is the only publicly-available dataset for analyzing light vehicle content.<sup>6</sup> The AALA data is an aggregation of the data that appears on the Monroney sticker affixed to all new light vehicles and differs from the NAFTA content data in several essential ways (Figure 4).

1. AALA counts U.S. and Canadian content as “domestic,” and provides some data that allows construction of an estimate of Mexican content<sup>7</sup>; NAFTA counts content for each of the three partner countries.

<sup>4</sup> Note that parts imports reflect “parts for consumption” which includes both original equipment parts as well as those for sale in the aftermarket.

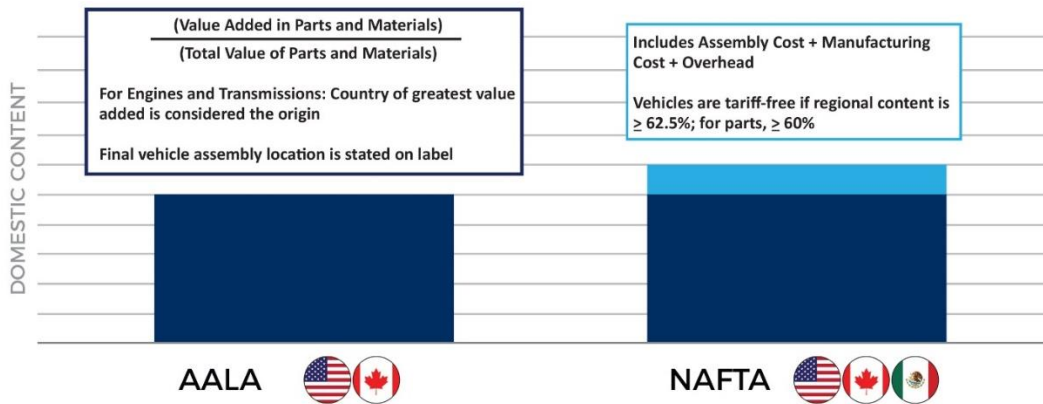
<sup>5</sup> There are 164 current WTO members and 23 observer states; the 161 subtracts the United States, Canada, and Mexico.

<sup>6</sup> NHTSA regulation Part 583 ([49 CFR 583](#))—*Automobile Parts Content Labeling*.

<sup>7</sup> AALA lists the country of origin for any parts content in excess of 15 percent. If Mexican content is lower than 15 percent, it is not in the dataset.

2. AALA counts only the ratio of the value-added in parts and materials over the total value of parts and materials; the current NAFTA counts only parts that are on the tracing list.
3. AALA counts the country of greatest value-added for engines and transmissions as the origin; NAFTA counts only completed engine and transmissions and those engine and transmission parts that are on the tracing list.
4. Final vehicle assembly location is listed on the Monroney/AALA sticker, but not counted in the content percentage.
5. The AALA content percentage does not count distribution or other non-parts costs. NAFTA content includes assembly cost, manufacturing cost, and overhead.

Figure 4: Comparison of American Automobile Labeling Act and NAFTA Content Rules



CAR recognizes that AALA data was not intended for vehicle content or trade analysis, but AALA data are the only public source that provides insight into vehicle content origins. AALA data are also flawed because each automaker may calculate their reported AALA content differently, and because some models are not represented in the data.

CAR based our NAFTA content estimates on available vehicle model-specific AALA data, augmented by overall industry averages on purchases, gross output, and value-added from the U.S. 2012 Economic Census, the U.S. Annual Survey of Manufacturers, Statistics Canada, and Instituto Nacional de Estadística y Geografía (INEGI). In calculating NAFTA content, CAR applied industry-wide averages to individual vehicle models in conjunction with the AALA data. CAR also relied on trade flow data to contextualize our content estimates and cross-checked the vehicle, engine, and transmission sourcing with two commercially-available datasets.<sup>8</sup> Due to limitations in these publicly available data sources, CAR's content share estimates are imprecise but directionally correct.

The difficulty in using AALA data to analyze vehicle content reflects both the challenges of applying overall industry data to individual products which may differ from industry averages in their characteristics, as well as from the formulation of the AALA content figures. Specifically, AALA data does not report content originating in countries which do not contribute a minimum of 15 percent of the value-added in non-engine and transmission parts. Where value-added is below this threshold, the AALA data will show it as zero. Likewise, the AALA data assigns all engine and transmission content to the country which contributed the highest share of value-added. In other words, if 30 percent of the engine's value is originating in the United States, but the remainder of the engine's value is from

<sup>8</sup> LMC Automotive and IHS|Markit

Germany, the AALA data will only show the German origin. Many vehicle models source engines and transmissions from different global locations depending on the configuration, and while CAR has access to commercially-available automotive forecasts that show the powertrain source plants, these databases do not have the associated engine and transmission usage and associated vehicle model volumes. CAR produced a range of estimates: the low-content estimates count only the typical value-added by engines and transmissions and where AALA or other data sources list multiple source countries for these systems, counts zero percent of the value of these systems as NAFTA content; the high-content estimates assigned the full value of dual-sourced engines and transmissions to their AALA-designated origins.

CAR estimated NAFTA content in 185 vehicles assembled in the NAFTA region for which there was AALA data for model year (MY) 2017. CAR divided the data into “cars” and “trucks” using the EPA definition, where “trucks” includes pickup trucks, vans, sport utility vehicles (SUVs) and cross-utility vehicles (CUVs). CAR applied this categorization to the vehicles in the AALA data and found 52 percent of the MY 2017 AALA data represented cars, and 48 percent represented vehicles classified as trucks.

## Evaluation of the Potential Impacts of the Proposed Regional Value Content Requirements for Vehicles and Parts

Trade data show that over 99 percent of vehicles imported from Canada and Mexico qualified for the NAFTA preference. Additionally, 79 percent of vehicles assembled in the United States are also sold in the United States and therefore not traded or subject to NAFTA rules. While CAR’s estimated NAFTA content is imprecise due to the limitations in the AALA data, the data can be used to discern trends. For instance, a larger share of vehicles classified as trucks meet the existing 62.5 percent RVC than do cars; the same relationship holds true when the RVC is 75 percent.

Table 2 lists the share of total U.S. imports by vehicle system that comes from Canada, Mexico, and the next three largest sources of imports for parts in each category (note: the data for parts imports reflect “parts for consumption” which includes both original equipment parts as well as those for sale in the aftermarket.) Some automotive parts and components are large, bulky, fragile, or are otherwise difficult to ship; manufacturers tend to source these products within the production region. Examples include high-volume engines, transmissions, powertrain parts and components, steering and suspension, seats, and metal stampings (most of which are included in the U.S. proposal’s definition of “core” parts). Some parts and components are more well-suited to shipping long distances, and therefore can be supplied from anywhere in the world (these largely fall into the “principal” and “complementary” parts categories in the U.S. proposal). These include fully-assembled high-value components such as engines and transmissions, but also low-value and high labor content parts and commodities (such as electrical and electronic parts, brake systems, and miscellaneous parts).

For many low-value and high labor content parts, there is currently little to no U.S. production capacity. Often the lack of U.S.- or NAFTA-region sourcing is because there is not a business case for production in the United States or the NAFTA region due to cost-competitiveness or issues of economies of scale. If there is an RVC requirement for share of NAFTA steel and aluminum in core parts, production that relies heavily on imported specialty grades of these metals may also move offshore.

Table 2: Canadian and Mexican Motor Vehicle Parts Imports for U.S. Consumption, and the Next Three Largest Import Sources, 2017 (Share of Imports by System)

System	Canada	Mexico	Next Three Largest Sources of U.S. Imports		
Engine & Parts	20.5	37.5	Japan	Germany	China
			12.6	5.3	5.3
Transmission & Powertrain Parts	13.1	35.1	Japan	China	South Korea
			18.1	8.4	7.4
Electrical & Electronic Parts	1.5	51.9	China	Japan	Taiwan
			11.4	7.9	4.0
Steering & Suspension	10.1	40.0	Japan	China	South Korea
			21.0	7.2	7.1
Motor Vehicle Seating	10.4	64.3	UK	China	Germany
			6.3	6.2	2.5
Brake Systems	7.7	31.0	China	Japan	Germany
			31.3	6.3	4.8
Metal Stamping	38.0	12.8	Taiwan	South Korea	China
			20.0	9.4	5.4
Other Automotive Parts	15.9	38.1	China	South Korea	Japan
			18.0	6.5	6.0

Source: U.S. International Trade Commission

Changes to NAFTA that either raise the price of North American-produced auto parts or that set the RVC at too high a level could lead to lower regional content as manufacturers choose instead to trade under standard MFN tariffs instead of producing in the NAFTA region. This cost structure could result in auto manufacturers selecting a lower-cost strategy that relies even more heavily on offshore sources for those parts and components that do not have to be sourced locally.

## Evaluation of the Potential Impacts of the Combined Proposed Regional Value Content and Labor Value Content Requirements

CAR also estimated the U.S. and Canadian content in the 185 vehicles assembled in the NAFTA region for which there was AALA data in MY 2017 for purposes of evaluating the impact of the LVC on current light vehicle production. Since AALA explicitly counts U.S. and Canada content, the only adjustments CAR made were to include estimates of parts and components and other value that NAFTA counts but AALA does not. Again, vehicles classified as trucks had higher estimated U.S. and Canada content than did those vehicles classified as cars.

Of the 185 vehicles produced within the NAFTA region, the combined effect of the “core” components content rule (based primarily upon engine & transmission sourcing) and the LVC requirement is that at least 46 and as many as 125 vehicle nameplates would be disqualified from trade using the NAFTA preference. In 2017, the 46 nameplates represented a combined 25 percent of U.S. sales and the 125 nameplates represented a combined 87 percent of U.S. sales.

Of the low-end estimate of 46 vehicle nameplates, CAR estimates that there are at least 22 nameplates in the 2017 AALA data that a) qualified for NAFTA preferences in 2017 that may no longer qualify under the U.S. proposed ROO; and b) that are imported to the United States from either Canada or Mexico. Of the high-end estimate of 125 vehicle nameplates, 40 may no longer qualify and are also imported from the United States’ NAFTA partners. These vehicles represent between 13 and 24 percent of annual U.S. sales.

Using the average manufacturers' suggested retail price (MSRP) for the vehicles in question and assuming the automakers would need to pay the MFN tariff (2.5 percent on cars, CUVs, and SUVs; 25 percent on pickup trucks and cargo vehicles) on these imports to the United States, results in an aggregate gross tariff collection of between USD 2.1 - 3.8 billion. The tariffs would add between USD 470 and USD 2,200 to the cost of these particular vehicles. Assuming the manufacturers pass through the entire cost of the tariff to consumers, the result would be an estimated loss of 60,000 to 150,000 annual U.S. light vehicle sales.

It is important to note that this analysis did not take into account the impact of the proposed NAFTA ROO on U.S. automotive exports. In 2017, the United States exported 2.4 million vehicles per year to our trading partners; that figure represents about 22 percent of all U.S.-produced light vehicle output. The U.S. proposal for NAFTA ROO would impact U.S. exports in two ways:

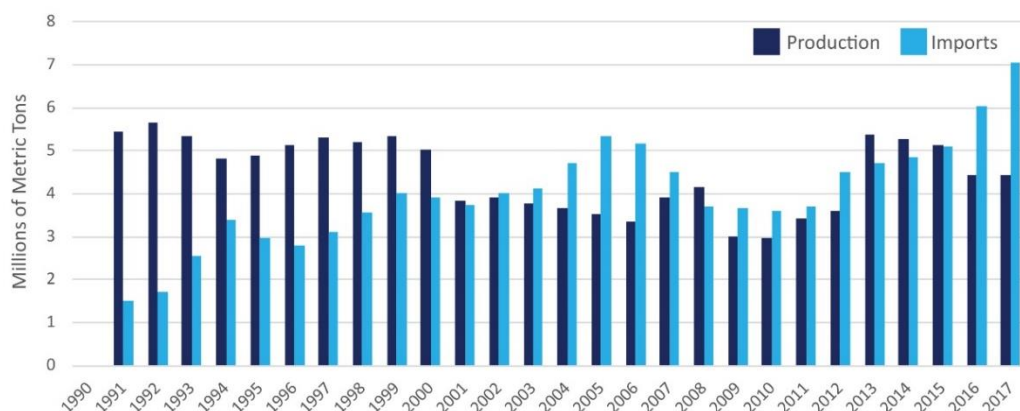
- 1) The U.S.-produced vehicles that are exported to Canada and Mexico will incur tariffs if they do not meet the NAFTA ROO. Exports to Canada would incur a 6.1 percent tariff and exports to Mexico a 20 percent tariff, thereby raising consumer prices for U.S. vehicles in those markets and reducing demand for U.S.-produced vehicles, and
- 2) The cost of production in the NAFTA region would increase, making U.S. vehicle exports less cost-competitive overall in the global light vehicle market.

Quantifying the impacts of these two effects on U.S. vehicle exports is beyond the scope of this briefing. However, the combined effect will likely result in higher prices for U.S. exports, lower U.S. export volumes, lower overall vehicle production, and a reduction in U.S. auto sector employment.

The overall impact of the U.S. proposal could be even larger than estimated in this briefing as there are provisions of which CAR was unable to estimate the impact on U.S. sales or production. First, the U.S. proposal includes light- and medium-duty vehicles, and there is very little data available about the sourcing of parts and components in the medium-duty segment.

Next, the U.S. proposal requires that "core" parts be manufactured using at least 70 percent North American steel and aluminum content. There is no publicly-available data on the sources of steel and aluminum used in automotive parts, and there are many different grades of these materials that are not interchangeable, and so CAR researchers were also not able to evaluate the impact of this proposal.

Figure 5: U.S. Aluminum Production and Imports, 1991-2017



Source: U.S. Geological Survey

There is some concern whether sufficient regional capacity exists—particularly for aluminum—to meet this requirement. In the United States, aluminum imports outstrip domestic production by a factor of 1.6. The automotive industry also relies on specialty grades of steel and aluminum, some of which are either not available domestically, or not available domestically in sufficient volumes to satisfy the mass-production needs of the automotive and parts industries (Figure 5). Restricting access to these metals, or artificially increasing the cost of their use will increase the costs of manufacturing for vehicles and parts, resulting in higher vehicle prices and lower sales and employment.

Finally, while the U.S. proposal allows manufacturers to meet up to 5 percent of their LVC requirement by counting certain R&D expenditures they make in the NAFTA region, data on R&D spending is not available at the level of detail required to address this in the analysis.

## Summary Evaluation of the Current U.S. NAFTA Rule of Origin Proposal

Setting a very stringent ROO with the goal of bringing manufacturing back to the United States and NAFTA region would have the opposite effect if the content targets are set too high, or the rules are too onerous. The 62.5 percent NAFTA RVC is already the highest content share in any U.S. free trade agreement. If the costs associated with meeting the new NAFTA ROO exceed the MFN tariffs, it could incentivize automakers and suppliers to produce outside the region and import to the Canadian, Mexican, and U.S. markets. Expanding North American capacity for auto assembly, parts and components manufacturing, and steel and aluminum production, while sharply increasing labor costs in Mexico will without question add more than 2.5 percent to the cost of U.S. non-truck vehicles, and parts and components imports.

There are at minimum 22, and as many as 40 vehicle nameplates that qualify under the existing NAFTA ROO that may not qualify under the U.S. proposal and are imported to the United States from Canada or Mexico; these vehicle nameplates represent between 13 and 24 percent of all vehicles sold in the U.S. market in 2017. The U.S.-imposed MFN tariff on these vehicles would add between USD 470 and USD 2,200 to the cost of the affected vehicles. Assuming the manufacturers pass along the entire tariff cost to the consumer, the U.S. proposal would result in at least 60,000-150,000 lost U.S. light vehicle sales.

As mentioned earlier, the analysis did not examine the impact of higher NAFTA region production costs due to stricter rules for NAFTA compliance on U.S. exports. Similarly, this briefing does not estimate the cost of tariffs on U.S. vehicle exports to Canada and Mexico and how higher prices due to incurring those tariffs might affect U.S. production and employment. The U.S. proposal will likely make U.S. exports less competitive in the global light vehicle market which will have negative impacts on U.S. production and employment.

The U.S. proposal to set an LVC is aimed both at reshoring production to the United States and raising the wages in Mexico. Average wages in the Mexican automotive and parts industries fall so far short of the North American average that paying the MFN rate for Mexican exports will be the preferred strategy for nearly all manufacturers of vehicles that are not classified as trucks. Moreover, as noted above, once manufacturers have to pay the MFN tariff, the work could move even further offshore with an even lower chance of there being any U.S. content in the resulting product. While raising wages in Mexico could help expand the market for U.S. products in Mexico, increasing average wages to too high a level and too quickly will result in fewer jobs in Mexico and fewer market opportunities for U.S. exporters. To be globally competitive, all global automakers source content from low-cost countries (LCCs), and every

automotive-producing region has a near-shore LCC. If manufacturing in Mexico becomes too costly, automakers will relocate production to LCCs in other areas of the globe. The current LVC proposal is operationally a “U.S. and Canada” peg within the NAFTA region—a concept that is antithetical to free trade.

While it will not be simple, it will be comparatively less burdensome for some regional vehicles—such as pickup trucks, vans, and large sport utility vehicles SUVs—to meet the RVC as these products are often either only produced in North America or the lead production location is in North America, and therefore the supply chain is located mainly in the NAFTA region. Most automakers base their cars and small- and mid-sized cross-utility vehicles (CUVs) on global vehicle architectures (“platforms”) and manufacture these vehicles in multiple regions around the world to serve global markets. The supply chains for these vehicles tend to be globally-sourced, as well, leading to lower NAFTA content.

The transition timeframe and the timing of the U.S. ROO proposal also pose issues for automaker and supplier investments. The proposed three-year transition period is entirely inadequate. A typical automotive investment takes three years at an absolute minimum from the time of the launch of the site selection process until the start of production. Three years represents the best case for production location timing only if the company decision had already been made at the time the new NAFTA agreement goes into effect—and many companies are waiting for the outcome of the renegotiation before making any location commitments. This timing estimate is based on analysis of CAR’s proprietary Book of Deals database that tracks all automaker and most supplier investments in North America going back to the early 2000s.<sup>9</sup> There is no objective source of data to benchmark the time it takes for companies to identify the need for new capacity and secure the corporate approval to move forward with the project, but interviews with automaker and supplier executives indicate this process alone can take several years. After the company decides to build new capacity, there is a period of at least a year for site selection, state and local incentives negotiation, and project planning. Constructing the site and setting up the plant and equipment can take up to year, as well. Typically, production does not begin until at least two years after the public site selection announcement, and then product launch and ramp-up to full production can take several additional months after the production of the first parts or vehicle. Parts and components sourcing and capacity planning add even more time to this process, especially if suppliers also need to make investment decisions, go through site selection, incentives negotiations, project planning, construction, and launch.

The U.S. light vehicle market peaked at 17.6 million units in 2016 and 2017 sales were only slightly lower at 17.3 million units; most automotive forecasters are predicting a slight sales plateau in the 16.4 to 17 million unit range through 2025. If automakers and suppliers can meet peak demand with existing capacity, they will have little appetite to expand capacity in a non-growth market. The companies’ caution is well-founded given that overcapacity in the automotive and parts industries was a critical factor in the 2007-2009 U.S. recession.

A prudent company will look for the lowest-cost option to serve the U.S., Canadian, and Mexican markets, and if the NAFTA automotive ROO becomes too onerous, that may well be to forego the NAFTA preference and to produce affordable products in global regions to generate sustainable profits. High content thresholds and other NAFTA provisions aimed at improving North American automotive and

---

<sup>9</sup> CAR Book of Deals, 2018.



parts manufacturing industries could perversely result in lower automotive and parts production and employment in the region.

Canada and Mexico were very dependent on sales to the U.S. market in 1994 when NAFTA took effect, but both NAFTA partners are less dependent on the United States today. The Canadian and Mexican governments have aggressively pursued free trade agreements with the rest of the world. In fact, Mexico just completed work on a new free trade agreement with the European Union in mid-April 2018. While the United States can only reach 28 percent of the global new vehicle market without tariffs, Canada can reach 53 percent of the global new vehicle market tariff-free and Mexico can reach 51 percent. Automotive and parts producers rely on Mexico as an export base. Many of these companies are looking beyond the United States and Canada to supply non-NAFTA markets from their Mexican operations. This trend is accelerating: in 2017, 1 in 4 Mexican light vehicle exports was shipped to non-NAFTA trading partners, but by 2020, that figure will jump to 1 in 3 Mexican light vehicle exports that will be destined for non-NAFTA markets. The NAFTA agreement will become increasingly less relevant as there will be no need for Mexico's non-NAFTA vehicle exports to meet any of the NAFTA content requirements.

NAFTA, as we know it today, makes North America a complete automotive region, with low and high wage jobs distributed to optimal locations based on cost, capability, and proximity to key assets. The current NAFTA renegotiation amounts to an attempt to redistribute the North American automotive industry to benefit the United States at the cost of its neighbors, but the strategy may not work. The U.S. proposal threatens numerous unintended consequences. Many automakers and suppliers may find the higher RVC to be non-binding, choosing instead to trade within NAFTA at the MFN tariff rate—as roughly 20 percent of current motor vehicle parts imports from Canada and Mexico already do. These manufacturers have a wide array of global suppliers to choose from, and they will seek the lowest cost method to produce vehicles for sale in the U.S. market. In the end, a new NAFTA enacted with the current U.S. proposal for automotive ROO could weaken the competitiveness of the region as a whole, hurt U.S. exports, and decrease future investment in the region.