

Commitment Is a Two-Way Street:
Toyota, California, and NUMMI

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The Toyota NUMMI Blue Ribbon Commission

The Toyota NUMMI Blue Ribbon Commission was appointed by California State Treasurer Bill Lockyer to examine Toyota's proposed closure of NUMMI.

The Commission

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Ellen M. Corbett, California State Senator, District 10

Danny Glover, Actor

Scott Haggerty, Alameda County Supervisor, District 1

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Carl Pope, Executive Director, Sierra Club

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Executive Summary

California is in the midst of the worst jobs crisis since the Great Depression. State unemployment reached 12.4 percent in December 2009—fifth highest in the nation. Double-digit joblessness could last through 2012. More than one in five California workers was unemployed, underemployed or too discouraged to look for work last year.

Against this troubling economic backdrop, Toyota has announced plans to close its New United Motor Manufacturing, Incorporated (NUMMI) vehicle assembly plant at the end of March. Located in Fremont, CA, NUMMI was formed in 1984 as a joint venture with General Motors. The closure will idle 4,700 workers at the plant, the largest mass layoff in California since the Great Recession began in December 2007, and threaten a total of almost 25,000 jobs across the state.

The cost to the public of replacing these jobs would be staggering. Using estimates by the President's Council of Economic Advisers it would cost taxpayers \$2.3 billion to replace the almost 25,000 jobs that could disappear. Just creating 4,700 jobs—the number lost at NUMMI itself—would cost \$433 million.

Most plant closings result from one or more of three factors: a slow-selling product, a company in financial trouble or a failing factory. None of these factors are present in this case. The Toyota Corolla, built at NUMMI, was the second best-selling car in the U.S. in 2009. Toyota is the wealthiest automaker in the world, having earned a record \$65 billion between 2004 and 2008 alone.

NUMMI is a very competitive auto plant today. It has high productivity, award-winning quality and competitive labor costs. It could be an even more competitive plant in the future, one that also produces hybrid and plug-in hybrid vehicles and anchors a new green network of advanced manufacturing, research and development, and related services throughout California.

The plant's most important asset is a highly skilled and experienced workforce. Their average age is 45 and they've worked at NUMMI an average of 13.5 years. Their talent, skill and problem-solving ability are at the heart of the famed Toyota Production System. Those assets cannot be reproduced overnight.

The United States is Toyota's largest market in the world. California accounted for almost 18 percent of Toyota's U.S. sales and 5 percent of the automaker's global sales in 2007. Toyota led California sales with a quarter of the market, more than the combined share of General Motors and Ford in 2009.

Toyota has benefitted considerably from federal and state programs. Most recently, the automaker ranked first in “Cash for Clunkers” sales in summer 2009, a stimulus effort that allocated \$3 billion in incentives to trade in older models for newer, more fuel-efficient ones. The Corolla proved the most popular model. In a similar program in Japan, U.S.-based automakers were excluded initially.

The popular products made at NUMMI today—the Corolla and Tacoma compact pickup—will roll off assembly lines outside the state, most outside the country, if the plant closes. Meanwhile, as new workers are hired and trained around the globe, thousands of workers in California and their families—people who devoted their working lives to building the automaker—will be left in the cold in the worst job market in seven decades.

The shutdown will divorce Toyota’s growing success in California from the creation of new manufacturing jobs in the state. Toyota assembled domestically less than half the 1.8 million vehicles it sold in the U.S. in 2009 and, if NUMMI closes, that number could plummet to 44 percent in 2010 and 39 percent in 2011. In contrast, the automaker produced in Japan over 225 percent of the 2.2 million vehicles it sold in its home market in 2007.

Moving Corolla and some Tacoma production offshore would increase the U.S. auto trade deficit, which reached \$121 billion in 2007, by an estimated \$2 billion or more. New imports shipped from Japan also add to Toyota’s carbon footprint.

Toyota has argued that NUMMI is no longer viable because General Motors pulled out as a result of its bankruptcy in summer 2009. GM, however, has accounted for an average of only 15 percent of NUMMI’s production between 2001-2009.

This is the moment for political leaders in Washington and Sacramento to address the closure. The most immediate, direct, and cost effective jobs plan available is to keep NUMMI running. This stimulus plan delivers 25,000 jobs and could *save* \$2.3 billion. The automaker and California would reap a triple bottom-line benefit: Toyota would restore its image and retain a world-class plant; workers and their families would make it through a dark economic winter; and California would get further down the road to economic growth and a green future.

Introduction

California is in the midst of the worst jobs crisis since the Great Depression. Despite modest signs of a fragile recovery, state unemployment reached 12.4 percent in December 2009¹—fifth highest in the nation. Double-digit joblessness could last through 2012.² More than one in five California workers—21.1 percent—was unemployed, underemployed or too discouraged to look for work last year. That represented the worst rate on record for the state and the second highest in the country.³

Against this troubling economic backdrop, Toyota has announced plans to close its New United Motor Manufacturing, Incorporated (NUMMI) vehicle assembly plant at the end of March. Located in Fremont, CA, NUMMI was formed in 1984 as a joint venture with General Motors.⁴ The closure will idle 4,700 workers at the plant, the largest mass layoff in California since the Great Recession began in December 2007.⁵ The shutdown will threaten an additional 19,908 related jobs across the state, putting a total of almost 25,000 jobs at risk, according to a projection from the East Bay Economic Development Alliance (East Bay EDA).⁶ The plant's annual payroll and benefits total \$512 million. Its suppliers and “derivative workers”—from nurses to schoolteachers—add another \$904 million. That means a total of more than \$1.4 billion in annual payroll and benefits will vanish from the economy.^{7,8}

Plant closings are damaging in good times but become devastating during hard times. The Council of Economic Advisors estimates that it costs \$92,000 to create a job.⁹ This means that creating the number of jobs lost just at NUMMI—4,700—would cost more than \$430 million, and the cost of creating the 25,000 jobs in the statewide NUMMI network would total \$2.3 billion.¹⁰ And these costs don't begin to address the true costs to workers, families and communities. There aren't a lot of alternatives out there for displaced workers seeking jobs. More than one-third of all unemployed in California in December 2009 had been jobless for 27 weeks or more, a 156.2 percent increase over a year earlier.¹¹

These results might be tragic, but are they inevitable? Not at all. Most plant closings result from one or more of three factors: a slow-selling product, a company in financial trouble or a failing factory. None of these factors are present in this case. The Toyota Corolla, built at NUMMI, is the best selling car of all time and was the second best-selling car in the U.S. in 2009.¹² Toyota is the wealthiest automaker in the world, having earned a record \$65 billion between 2004 and 2008 alone.¹³

NUMMI has been among the most heralded manufacturing plants in the U.S. for a quarter century. It remains very competitive today. It has high productivity, award-winning quality and competitive labor costs. It could be an even more competitive plant in the future, one that produces hybrid and plug-in hybrid vehicles and anchors a new green network of advanced manufacturing, research and development, and related services throughout California.

The plant's most important asset is a highly skilled and experienced workforce. Their average age is 45 and they've worked at NUMMI an average of 13.5 years.¹⁴ Their talent, skill and problem-solving ability are at the heart of the famed Toyota Production System. These assets cannot be reproduced overnight. Dismantling this manufacturing community and throwing these workers to the wind would be a loss for both Toyota and California.

The closure would amount to an abandonment of one of Toyota's core values: job security for its workers. NUMMI will be the first plant shutdown in the automaker's 73-year history.¹⁵ Two admirers of the company, one a former Toyota manager, point out in *Toyota Culture: The Heart and Soul of the Toyota Way* that "stable employment is the foundation of Toyota's commitment."¹⁶ Adherence to this principal has propelled high productivity and quality at the company's factories throughout the world and paved the way for its global success.

U.S. and California consumers have fueled Toyota's spectacular surge in sales over the last decade. The automaker sells more vehicles in the United States—the company's largest market—than in Japan. California accounted for almost 18 percent of Toyota's U.S. sales and 5 percent of the automaker's global sales in 2007.¹⁷ Toyota led California sales with a quarter of the market, more than the combined share of General Motors and Ford in 2009. The Corolla was the third best selling car in California, and the Tacoma, also built at NUMMI, was the most popular compact pickup with a market share approaching 60 percent last year.¹⁸

Toyota has benefitted considerably from federal and state programs over the years. Most recently, the automaker captured first place in "Cash for Clunkers" sales in summer 2009. The "Cash for Clunkers" program was an economic stimulus effort that allocated \$3 billion in incentives for drivers to trade in older models for newer, more fuel-efficient ones. The Corolla proved the most popular model.¹⁹ In a similar program in Japan at about the same time, U.S.-based automakers were excluded initially.

California has invested heavily in NUMMI, from training funds to infrastructure improvements. The state has given NUMMI more than \$18 million for training since the plant's inception—one of the largest single grants from California's Employment Training Panel (ETP) in history. This aid included more than \$10 million in the last seven years alone.²⁰ Millions more have gone to NUMMI suppliers for training. Major infrastructure improvements have been done explicitly for the plant and to meet its needs. The Port of Oakland, for example, was dredged 12 years ago to accommodate the kinds of cargo ships the plant requires at a cost of \$410 million.²¹

The products made at NUMMI today will roll off assembly lines outside of the state, even the country, if the plant closes. The Corolla will be sourced from Japan and Canada, where new workers will have to be hired and trained. The Tacoma will be assembled near Tijuana, Mexico and in a new Toyota plant in San Antonio, Texas, where 1,100 new workers will be hired.²² Meanwhile, as these new workers are hired around the globe, thousands of workers in California and their families—people who devoted their working lives to building the company—will be left in the cold in the worst job market in seven decades.

Closing NUMMI does not simply shutter a plant but dismantles a vital manufacturing and service network. "It is a critical part of the economic infrastructure of our state," Barry Broad, Acting Chair of the Employment Training Panel points out.²³ The shutdown will divorce Toyota's growing success in California from the creation of new manufacturing jobs in the state. In 2009, Toyota assembled in the U.S. less than half the 1.8 million vehicles it sold in the country.²⁴ If NUMMI closes, that number could drop to 44 percent in 2010 and 39 percent in 2011.²⁵ In contrast, the automaker produced in Japan more than 225 percent of the 2.2 million vehicles it sold in its home market in 2007.²⁶

Additionally, moving Corolla and some Tacoma production offshore could increase the U.S. trade deficit, which stood at \$121 billion in 2007,²⁷ by an estimated \$2 billion or more. And from an environmental perspective, it would enlarge Toyota's carbon footprint by requiring more cars to be shipped from Japan. On the other hand, retaining NUMMI offers a unique opportunity to Toyota and California as both seek to navigate unprecedented storms. Toyota is in the midst of the worst crisis in its history. The recall of 8.5 million vehicles worldwide over issues related to uncontrolled acceleration and erratic brakes, among other defects, have stained, if not permanently tarnished, the company's once pristine reputation. The automaker now faces government investigations, lawsuits, and possible criminal charges. "Looking at the pending NUMMI plant shutdown, and then you

look at larger problems that Toyota is having in America,” Richard Holober, the executive director of the Consumer Federation of California, told the Toyota NUMMI Blue Ribbon Commission, “I believe [Toyota] has lost its moral compass.”²⁸

To rebuild its reputation, Toyota is running a series of full-page ads in major newspapers throughout the country. In one of these ads, “Our Pledge to Toyota Drivers,” the company says “the pillars of the “Toyota Way” are “respect for people” and “continuous improvements.”²⁹ The ad goes on to say, “We’ll adhere closely to them as we make vehicle safety our top priority.” Closing NUMMI hardly shows “respect for people.” It jettisons the most seasoned Toyota workforce in North America, the central ingredient for “continuous improvements.”³⁰ In sharp contrast, keeping NUMMI operating sends a dramatically different message: a return to the automaker’s core values and a demonstration that consumers and workers can rely on its word.

For the state, NUMMI offers the promise of rebuilding its manufacturing base for the 21st century. The plant could become the anchor for an automotive alternative energy complex that links to new suppliers, venture capital, and research and development on new technologies already developing in Silicon Valley.³¹ The move would help jump-start a promising high-tech, green manufacturing future for California. The Corolla and Tacoma are currently fuel-efficient leaders in their respective automotive classes. A hybrid or plug-in hybrid model could be added to the mix. The trade press has reported Toyota plans a hybrid version of the Corolla for the 2013 model year.³² Rolling off the assembly line in Fremont, this model would connect with the largest market for hybrids in the U.S. and could even be called the “Corolla California.”

For nearly three decades, Toyota and Californians have together developed the state’s unique assets to produce the highest quality vehicles at the center of Toyota’s top sales market. The range of participants in the Toyota NUMMI Blue Ribbon Commission shows the state is more willing and able than ever to help Toyota build the next generation of automobiles. Each constituency—from the Fremont Chamber of Commerce and NUMMI employees to the California Federation of Labor and the Sierra Club—has contributed a unique perspective on how Toyota can use California’s resources to meet the challenges of a 21st century automaker. These analyses are born of years of experience as Toyota suppliers, employees and stakeholders. Toyota’s great strength has been its ability to tap the experience of such partners. As Toyota’s President Akio Toyoda has said, “At Toyota, we believe the key to making quality products is to develop quality

people.”³³ Now, more than ever, Toyota and Californians alike will benefit if the automaker stands by this principle.

At this critical moment, Toyota should reverse its decision and commit to continuing a successful plant. As the economy and auto market return to more stable ground, the value of NUMMI, and its key relation to Toyota’s most important market, will stand out. Toyota, NUMMI workers, and California would all benefit.

In this report, we examine both the costs of the closure and the new opportunities for California of continuing NUMMI’s operations. We examine the following themes: the California economy; the auto market and Toyota; NUMMI itself; the decision to leave; financial costs of closure; the impact on workers and families; a California clean transportation cluster. Following this examination, we offer a brief conclusion.

The California Economy

These are tough times for California workers. The Center for Continuing Study of the California Economy projects “despite the brightening outlook for economic recovery, current job and unemployment data still trend downward.”³⁴ The Business Forecasting Center at the University of the Pacific concurs, predicting high unemployment—over 8 percent—through at least 2014.³⁵ California shed almost 1 million jobs or about 6.5 percent of the nonfarm wage base between the start of the national recession in December 2007 and September 2009.³⁶ Manufacturing alone dropped 156,000 jobs during this period or almost 11 percent of total employment in this sector.³⁷

Against this dismal jobs picture, the closure of NUMMI will idle 4,700 well-paid manufacturing workers at the plant and could threaten the livelihoods of thousands at suppliers and “spin-off” workers whose jobs are supported by the purchasing power of those in the production chain. Most projections use econometric modeling and assumptions about “multipliers” to gauge the impact on suppliers and spin-off workers. The East Bay Economic Development Alliance’s (East Bay EDA) estimate that NUMMI supports almost 25,000 jobs in California is in line with other projections.³⁸

The University of the Pacific’s “California and Metro Forecast: 2010-2014” concludes that the NUMMI closure will exacerbate the recession in some of the hardest hit and most vulnerable areas of the state. The forecast projects “total, permanent job loss will exceed 20,000,”³⁹ and then points out that almost 6,000

people in the San Joaquin Valley will lose “above-average paying jobs” as a result of “a sizable number of suppliers and employees who live in the region.”^{40,41} In this area, “unemployment averages around 16 percent and is still rising.”⁴² As if this weren’t enough, “the foreclosure crisis has hit this region earlier and harder than anywhere else, home building has fallen by 90 percent (and) home values have fallen by 50 percent or more.”⁴³

The auto market and Toyota: a profitable company with limited U.S. production

The last decade began on a promising note for the auto industry. Annual light vehicle sales sped along at more than 16 million units a year in the U.S. until 2008. The market then began plummeting, landing at 10.4 million in 2009, the worst year since 1982.⁴⁴ Nonetheless, Toyota almost doubled its market share from 9.3 percent in 2000 to 17 percent in 2009, moving past General Motors to lead the U.S. in new-vehicle retail sales.⁴⁵

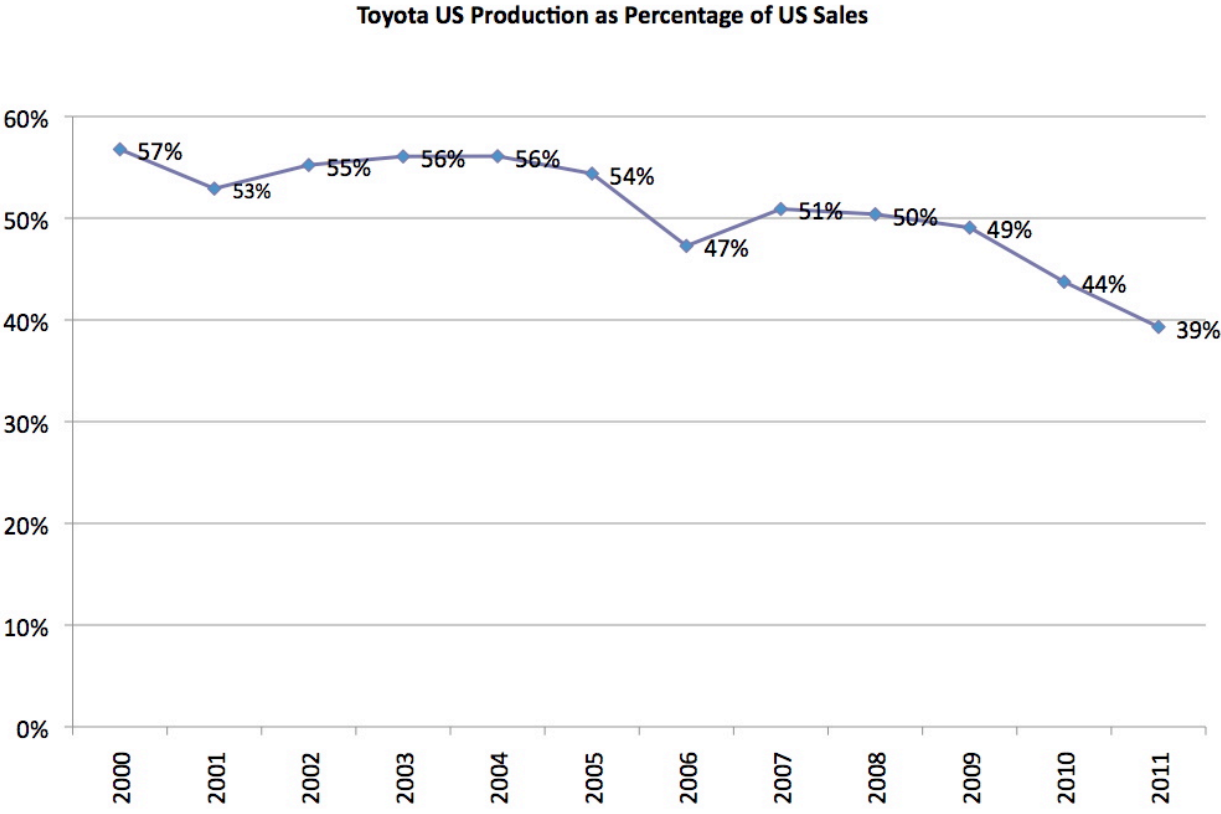
Toyota has sought to emphasize its U.S. manufacturing footprint to gain political support and to appeal to consumers. “Toyota has gradually built a broad political base in Congress over the years, establishing 10 manufacturing facilities and other operations that employ 33,400 people,” Reuters reported.⁴⁶ Late in 2009, the company ran a series of ads entitled, “We See Beyond Cars.” In one of them two workers are standing on a grassy hill holding a large outline of a car that frames a bucolic scene of Princeton, Indiana below. The text of the ad reads:

We see ways to enrich the community. At Toyota, building great partnerships is as important to us as building great cars. It’s why we value being a part of the places where we work and live. We employ locally, partner with area vendors and suppliers, and collaborate with local organizations to better the community.⁴⁷

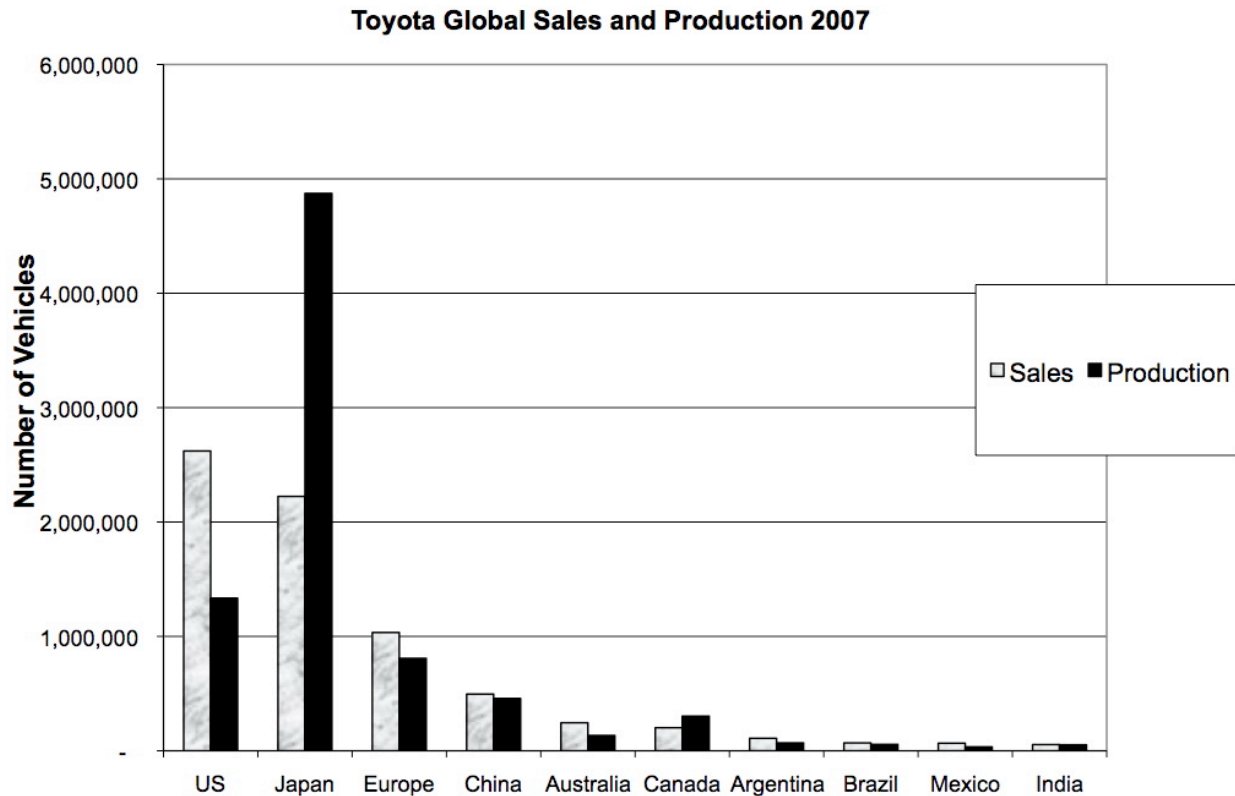
Despite its rhetoric, Toyota has only built about half the vehicles it sells in this market in the U.S. The rest have been imported from Japan, Canada, Mexico and elsewhere. In 2000, Toyota built in the U.S. 57 percent of the 1.6 million vehicles it sold here. That percentage slid to 49 percent of 1.8 million in sales in 2009.⁴⁸ If NUMMI closes in March, Toyota is on track to produce 44 percent of a projected 2 million vehicles in 2010 and 39 percent of 2.4 million cars and trucks in 2011.⁴⁹

In contrast, Toyota built nearly 5 million vehicles in Japan in 2007, almost 225 percent of the 2.2 million it sold there.⁵⁰ The rest were exported.

Graph 1: Toyota Light-Vehicle US Sales and Production 2000-2011⁵¹



Graph 2: Toyota Global Sales and Production 2007⁵²



The year 2010 began on an optimistic note with all U.S. Toyota assembly plants working overtime in response to rising sales. The company announced that it planned to double its North American production in the first quarter compared to the previous year. Then the recall fiasco drove the automaker into a deep skid. *Bloomberg BusinessWeek* summed up the situation: “Toyota Motor stumbled into the worst crisis in its history: more than 8 million cars recalled worldwide, plummeting sales, and a U.S. government investigation into whether the company should have moved faster to correct the mechanical problems of its automobiles.”⁵³ *Automotive News*, normally a friendly observer of the automaker, began a front-page story with, “Toyota’s self-inflicted and spiraling quality crisis has put the company’s entire U.S. operation at risk.”⁵⁴ An *Automotive News* editorial in the next issue was blistering: “Toyota’s initial response to mushrooming concerns about the safety of its vehicles has been appalling.”⁵⁵

While the stakes are extremely high for Toyota, many analysts feel the issue is not whether the company recovers in the U.S. but when and at what cost. Goldman Sachs, for example, rated Toyota number one at the beginning of February 2010 among the world’s top 13 automakers, based on a number of factors from “low

cost position” to “financial health.”⁵⁶ Goldman estimates that Toyota’s market share will rise to 17.3 percent in 2010 and 2011 and then rise further to 18 percent in 2012, years in which the market itself is likely to grow considerably.⁵⁷ At the end of 2009, Toyota reportedly had \$24 billion in cash on hand.⁵⁸

NUMMI: a high-performing auto plant

NUMMI was born in the wake of another major economic collapse in the early 1980s. The Detroit-based automakers—Ford, General Motors and Chrysler—were in deep trouble. Chrysler averted bankruptcy only with \$1.5 billion in federal loan guarantees. GM closed a number of assembly plants around the country, including its facility in Fremont, CA, reportedly one of its worst performing. At the same time, Japanese automakers were gaining market share but becoming apprehensive about protectionist sentiment in the United States. As a result, they began opening factories in this country. NUMMI was born as a joint-venture between GM and Toyota in 1984, utilizing the then-mothballed Fremont plant. GM wanted to observe the widely-hailed Toyota Production System up close and Toyota wanted to see how that system would work with U.S. workers, in this case unionized GM veterans from the shuttered plant. GM contributed the plant, most workers were United Auto Workers (UAW) veterans from the shuttered facility, and Toyota brought its production system and key managers.⁵⁹

At the heart of the NUMMI experiment was a compact: the company committed to job security, and the UAW pledged a flexible workplace and world-class performance. In fact, this principle has been central to the Toyota Production System. As Jeffrey K. Liker and Michael Hoseus point out in *Toyota Culture*, “It is well understood throughout Toyota that, short of an economic catastrophe for the entire company, like that of the late 1940s, employees will not be laid off.”⁶⁰ The UAW took Toyota at its word. John Shook, an industrial anthropologist who was hired by NUMMI at the beginning, wrote in the Winter 2010 *MIT Sloan Management Review*, “The union and workers didn’t just *accept* Toyota’s system, they *embraced* it with passion.”⁶¹ This labor commitment has continued through the present day. “NUMMI has long been a symbol of U.S.-Japan cooperation,” the Japanese *Nikkei Weekly*, recently observed. The paper then pointed out that the plant is “Toyota’s only U.S. production facility where employees are represented by the influential United Auto Workers union [and] has enjoyed friendly labor-management relations, illustrated by an agreement for work-sharing arrangements in response to the sharply contracting auto market.”⁶²

Not long after the assembly line began rolling, sales skidded an alarming 30 percent. Nonetheless, unlike most U.S. firms, “Toyota’s leaders did not calculate the costs and benefits [of layoffs] at NUMMI,” Liker and Hoseus write, “they simply lived up to their commitment of providing job security for their workers.”⁶³ The automaker invested upfront in job security but gained considerable longer-term advantages in productivity, quality and loyalty. “The first benefit was loyal employees for many years...a highly loyal, well-trained workforce that trusted the company.”⁶⁴ Another global benefit accrued as well. “The company’s leaders showed by example to Toyota employees throughout the world that Toyota lives up to its commitments and values team members.”⁶⁵ Anything less would have betrayed a fundamental principle and undermined the automaker’s very credibility. Ironically, the book points out that “layoffs in the Fremont, California branch would have destroyed the trust and member commitment in Toyota’s operations throughout the world.”⁶⁶

Toyota puts a heavy emphasis on the value of its corporate culture and the length of time it takes to master its production system. When Gary Convis, at the time President of Toyota Manufacturing in Kentucky, was asked how long it takes to train someone to be a Toyota manager, he responded “about ten years” — and this for someone with managerial experience.⁶⁷ Liker and Hoseus maintain that the system is so complex and dependent on a deepening culture over time that “there is no such thing as ‘unskilled labor’ at Toyota.”⁶⁸ Job security ties this complex package together on the shop floor. Pete Gritton, then Vice President of Human Resources at Toyota in Kentucky, quoted Hiroshike, his Japanese mentor: “Toyota has a history of 40 years of job security. Do not screw it up. We expect people to exert extra effort when we need it, but nothing can replace the sense of job security.”⁶⁹

At NUMMI, Toyota has a talented and proven workforce. The average length of service is 13.5 years, but there are many 17- and even 25-year veterans.⁷⁰ This experience promotes effective trouble-shooting on production, quality and safety issues. Toyota’s president affirmed the importance of a strong workforce in his U.S. Congressional testimony in late February 2010.

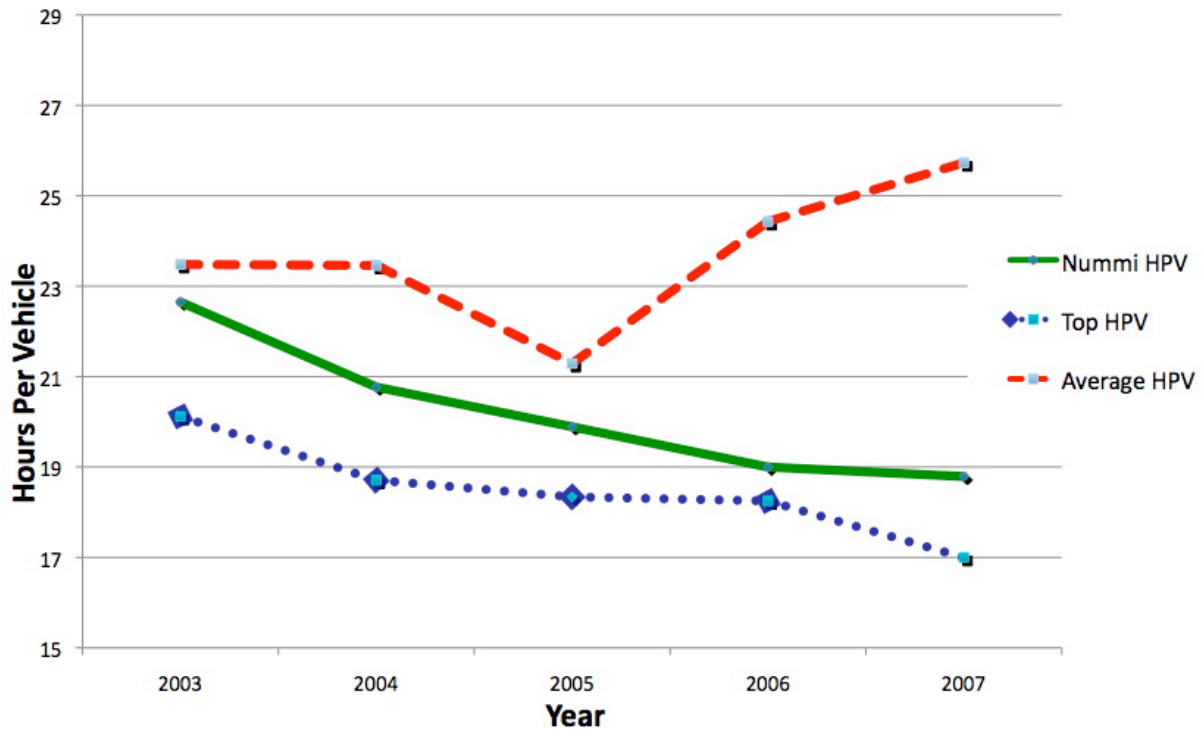
Each employee thinks about what he or she should do, continuously making improvements, and by doing so, makes even better cars. We have been actively engaged in developing people who share and can execute on this core value. It has been ... over 25 years since we started production here.⁷¹

Mr. Toyoda raises excellent points. Why, then, close NUMMI and terminate the most senior and skilled workforce Toyota has in North America? These are precisely the workers who understand the “Toyota Way.” They have a body of knowledge and an ability to troubleshoot problems in the production process that cannot easily be replicated by less-experienced workers. In particular, dismissing a seasoned workforce of this quality to build the same vehicles with newly-hired workers seems a questionable call, given all the turmoil the automaker is currently embroiled in.

The Harbour Report, a widely-cited annual auto industry productivity study, remarked in its 2007 analysis that NUMMI “is an example of what strategic collaboration can achieve” and observed that the plant “remains a test bed of innovation.”⁷² Harbour measures assembly plant productivity in terms of “hours per vehicle” (HPV). Fewer hours are better and a declining slope means improving productivity. In 2007, the NUMMI-built Corolla ranked third out of 8 North American plants in its class with 18.79 HPV, slightly behind the 17 HPV of the first place factory.⁷³ As Graph 2 indicates, NUMMI demonstrated “continuous improvement” in its productivity between 2003 and 2007 on the Corolla.⁷⁴ The Tacoma Pickup ranked first in 2006 in the “Midsize Pickup” category and a close second out of five plants in 2007 in the same category with 19.22 (HPV).⁷⁵

**Graph 2: NUMMI Productivity (hours per vehicle) Ranking Compared to Other North American Sub-Compact Assembly Plants
(a declining line indicates improving productivity)**

Plant Segment Ranking for HPV manufacturing Sub Compact



Quality has been especially strong at NUMMI. J.D. Power and Associates produce an annual “Initial Quality Study” that measures the contribution of assembly plants in this critical area. The Corolla ranked “Best Compact Car in North America” in 1999, 2001, 2002, 2004, and 2006.⁷⁶ The Tacoma ranked “Best Compact Pickup in North America” in 2002 and 2007.⁷⁷ Both vehicles consistently scored highly in other years as well.

Precise numbers on labor rates are difficult to come by. But NUMMI rates are competitive with those in the new union contracts at the Detroit-based automakers and also competitive with Toyota’s other “mature” assembly plants in the U.S., such as its main facility in Georgetown, Kentucky. For the July 2007- July 2008 year, NUMMI production workers earned \$27.49 per hour⁷⁸ and their total compensation—wages and benefits—was slightly lower than Toyota in Georgetown and in Princeton, Indiana.

Why leave NUMMI?

Toyota has given three principal reasons for closing the plant: first, GM's decision to leave in the wake of bankruptcy in summer 2009 made NUMMI no longer viable for Toyota; second, Toyota has significant excess capacity in North America; and, finally, NUMMI is plagued by long supply lines from the Midwest. A fourth oft-stated argument is that the plant is too old. Let's consider each point individually.

Toyota executives frequently have sought to blame GM for the closure. A February 3 press release made this argument: "Toyota's decision to end its production contract with NUMMI was difficult but necessary, given General Motors' actions to abandon the joint venture, which severely undermined the economic viability of the plant and precipitated this situation." James Lentz, president of Toyota Motor Sales U.S.A., responded to a question by Congressman Jerry McNerney in a Congressional hearing on February 23, 2010, by stating, "When [GM] pulled out, and they pulled out 30 percent of their volume, that plant was difficult to become commercially viable."⁷⁹

In fact, General Motors was dealing with bankruptcy when it announced its decision to withdraw from NUMMI in summer 2009. And, in any case, GM accounted for only 10 percent of the plant's production last year and an average of 15.4 percent between 2001 and 2009. Toyota could easily fill its production lines at NUMMI by building a higher percentage of the Corollas it sells in the U.S, or adding a new model to the plant. In 2008, for example, Toyota built 43 percent of the Corolla/Matrix vehicles sold in the U.S. at Fremont.⁸⁰ The other 57 percent were imported from Canada and Japan. Moreover, Toyota produced 61,000 vehicles at NUMMI between January 1 and February 27, 2010, with no GM production at all, more than double the 27,000 produced in the same period 2009 with assembly for GM included.⁸¹

GM Production as a Percentage of Total NUMMI Production										Average
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2001-09
GM production	46020	59556	74223	69226	62321	58334	49371	70839	27951	57538
NUMMI Total	351681	369856	395083	380678	417398	428633	407890	342041	266701	373329
GM %	13.09%	16.10%	18.79%	18.18%	14.93%	13.61%	12.10%	20.71%	10.48%	15.41%
Source: Automotive News Data Center 2001-2010, http://www.autonews.com/section/datacenter and Automotive News, "2009 Market Data: North America Production," July 27, 2009, Crain Communications.										

The second argument is that Toyota has significant excess capacity in North America. The *Wall Street Journal* reported on August 19, 2009:

Discussions over the NUMMI plant come as Toyota's new chief executive, Akio Toyoda, and his management team look for ways to solve excess capacity, a primary drag on Toyota's financial performance. The problem is particularly acute in North America, where the company added plants earlier this decade to meet then-strong demand.⁸²

Toyota opened a \$1.3 billion truck plant in San Antonio, Texas to produce the new full-sized Tundra pickup and also constructed a still-empty plant near Tupelo, Mississippi for the Highlander SUV.⁸³ In the midst of a severely depressed light vehicle market—2009 recorded the lowest sales since 1982—the San Antonio plant is running well-below capacity and the Tupelo plant sits idle without machinery. Two things could make this current excess capacity a moot point: first, most analysts project significant growth in vehicle sales in the coming years; and, second, Toyota could build a higher percentage of its U.S. sales in this country. If Toyota operates its San Antonio plant and its new Tupelo plant at full capacity, and also runs NUMMI at full capacity, it would only be able to build 70 percent of projected 2011 sales in the U.S. and an even lower percentage in 2012.⁸⁴ This percentage of U.S. sales built domestically still would be below any of the Detroit-based automakers.

The third argument is that much of Toyota's supplier base is in the Midwest. James Lenz told the February 22 Congressional hearing, "[NUMMI's] a long way from our logistics lines."⁸⁵ Congressman McNerney reportedly responded, "Yes, but it's very close to its largest market." Each Corolla carries a \$750 charge for shipping, whether it is sold in New York or San Francisco.⁸⁶ Clearly, what Toyota earns on vehicles shipped within California or the West would offset transportation costs on parts from the Midwest.

On another level, Toyota only sources 50 percent of the parts on the Corolla and Tacoma in the U.S. and Canada, including the engine and transmission.⁸⁷ 35 percent of the parts come from Japan, giving Fremont an important geographical advantage here, and the rest from other countries. 15,000 containers of Toyota parts arrive in California's ports every year for assembly at the plant.⁸⁸ And, Tacomas are also assembled with parts from Toyota's TABC manufacturing plant

in Long Beach, CA, which also exports parts to Japan.⁸⁹ Toyota produces Tacoma pickup truck beds at its plant in Tijuana, Mexico.⁹⁰

A fourth reason sometimes given is that the NUMMI plant is too old, having been built in 1962. This argument does not stand up to current industry practice, especially for Toyota. Toyota's Takaoka plant in Japan opened in 1966, built the first Corolla, and currently assembles all Corollas in Japan. GM's Lordstown, Ohio plant opened in 1966, and has produced primarily small cars. On February 23, 2010, GM announced it would resume the third shift at the plant, adding 1,200 jobs beginning this summer.⁹¹ NUMMI, given its layout, is hardly obsolete.

Financial costs of closure

As we have seen, the cost of creating jobs in this downturn is high. U.S. Labor Secretary Hilda Solis has announced a series of federally-funded programs for the 4,700 NUMMI workers who would lose their jobs in a shutdown. These workers would be able to receive up to 130 weeks of unemployment compensation if they are enrolled in a job-retraining program approved by the state.⁹² An additional 26 weeks will be possible if an individual needs remedial education courses. The program also allows workers over age 50 up to \$6,000 a year for two years in income support if they take a job below their previous salary. Eligible workers will also receive an 80 percent tax credit on health insurance payments.⁹³ While these benefits are important, they do not come close to replacing the wages and benefits the NUMMI workers would be losing.

As noted in the introduction, the Council of Economic Advisors estimates that it costs \$92,000 to create a job for a year.⁹⁴ This means that creating the number of jobs lost just at NUMMI—4,700—would cost more than \$430 million⁹⁵ and the cost of creating the number of jobs in the statewide NUMMI network would total \$2.3 billion.⁹⁶

In addition, the impact of NUMMI layoffs on state and local finances will be considerable—and at a time when state and local government cannot afford it. In the introduction, we noted that NUMMI plus its suppliers and service providers account for \$1.4 billion in payroll. If we assume, conservatively, that \$1 billion of this payroll is income, this amounts to a loss of \$90 million in state and local taxes annually (since state and local taxes in California are about 9 percent of income).⁹⁷ Additional revenues would be lost because workers impacted no longer contribute to state unemployment and disability insurance funds. These costs are partial, and meant only to be indicative of the burden that the state and local communities will bear.

The impact on workers and families

These are tough times. The *New York Times* ran as their lead story on February 21, 2010, “The New Poor: Millions of Unemployed Face Years Without Jobs.”⁹⁸ The article, reported from California, began, “Even as the American economy shows tentative signs of a rebound, the human toll of the recession continues to mount, with millions of Americans remaining out of work, out of savings and nearing the end of their unemployment benefits.”⁹⁹ As we have seen, the cost of creating jobs in a steep downturn is high and the lost revenue for communities and the state, already reeling in the wake of the Great Recession, is difficult to bear. The toughest cost, however, is born by workers and their families. It can have permanent, devastating consequences. And the damage cannot be unwound when auto sales rise or the economy becomes healthier.

NUMMI workers are as diverse as California. 29 percent are Hispanic, 28 percent Caucasian, 23 percent Asian and 17 percent African American. The unemployment rate for Latinos—15.7 percent—and African Americans—15.3 percent¹⁰⁰—exceed the state average of 12.4 percent. The closure would only add to the hardship of these communities. 84 percent of NUMMI workers are male and 16 percent female.

Sergio Santos, President of UAW Local 2244, which represents the NUMMI plant workers, is a third generation autoworker. He spoke about his father being laid off when the Fremont plant, at the time owned by General Motors, closed in 1982.

The General Motors plant went to open in Fremont, California in 1963. My father worked there 22 years. And on that one day in 1982, my father came home, crying, secluded, locked himself up in his room and [then] came outside and told our family that he had just lost his job. It ripped my family apart. My father comes out the following day and tells me, ‘Son, you gotta go to work; I’m not going to be able to afford for you to go to school.’ And I went to work. My father stayed home—didn’t know what to do—all he’d ever known was auto. He later went out to cut trees and to cut lawns, tried to make ends meet. We later lost our house. Lost my family. And it just really devastated our home. The impact of the attempted closing at the Toyota plant will be devastating.

And the reason I know that is because I went through it.¹⁰¹

Mari Alvarez has been a line worker at NUMMI for nine years. Her husband worked at the plant before he was injured and let go.

We have three kids, Anthony, Jasmine, and Xavier. We don't know what we're going to do. Jamie H. has a ten-year-old son who was diagnosed with Leukemia three years ago. He's been there for 17 years. Shahida W. has a son who's 16 years old who's diagnosed with kidney disease and needs to have dialysis. We don't know what they're going to do and how they're going to handle the situation if it does in fact close. It's not just an economic disaster, it's a human tragedy that Toyota is trying to do to us.¹⁰²

The health consequences of layoffs can be traumatic for workers and their families. The *New York Times* ran a front-page article on February 25, 2010 titled, "For Workers at Closing Plant, Ordeal Included Heart Attacks." The article references a number of studies, such as one from Yale University, which found "layoffs more than doubled the risk of heart attack and stroke among older workers."¹⁰³ A Columbia University study of laid off U.S. factory workers "concluded that death rates among high-seniority male workers jumped by 50 percent to 100 percent in the year after a job loss, depending on the worker's age. Even 20 years later, deaths were 10 percent to 15 percent higher. That meant a worker who lost his job at age 40 had his life expectancy cut by a year to a year and half."¹⁰⁴ The fact that the average age of the NUMMI workers is 45 makes these findings especially relevant. When the GM Fremont plant closed in 1982, at least six workers committed suicide in the aftermath.¹⁰⁵

What makes NUMMI's projected closure even more difficult psychologically to workers and their families is that these workers did everything Toyota asked of them and took great pride in their success. Their plant is being unfairly closed, as they see it, while Toyota is building brand new plants and hiring new workers around the globe. And, it isn't only NUMMI workers who are directly impacted by the closure. Other workers in the supply chain face the same problems. About 1,500 Teamster jobs in the plant, a parts supplier and in the auto transport field will also likely be lost.

A California clean transportation cluster

California has been a pioneer on environmental issues, and Californians have been leading consumers of green cars. “California is the main market for the Prius, by far,” according to Jesse Toprak, an analyst for TrueCar.com, based in Santa Monica. “Clearly, it’s the largest market in the world for them.”¹⁰⁶ In fact, the state accounts for one in four Prius sales in the U.S. NUMMI would be an excellent site to introduce a new hybrid or plug-in hybrid model. Industry sources indicate that Toyota plans a hybrid version of the Corolla in 2013,¹⁰⁷ which would be a natural candidate, as would either the Prius—currently manufactured only in Japan—or a plug-in Prius due out soon. A hybrid for another manufacturer could also be a possibility.

A hybrid or plug-in hybrid at NUMMI would have several advantages for Toyota and a major one for California. Toyota could use NUMMI to produce a leading green vehicle associating the model with the progressive environmental image of the state. “California’s leadership in clean vehicles will drive up demand for the very best and Toyota can show its commitment to the consumers in this state by bringing hybrid manufacturing to NUMMI,” Carl Pope, Executive Director of the Sierra Club and a member of the Toyota NUMMI Blue Ribbon Commission, wrote in a letter to Akio Toyoda.¹⁰⁸ “The market is here for your vehicles and the NUMMI plant is the place to manufacture them.” In fact, Toyota might choose to name the new hybrid the “Corolla California,” a symbol of environmental responsibility for the renewed plant that produces it. Toyota used similar logic in deciding to locate a new plant for full-size pickups in San Antonio, Texas, which is distant from its core supply base in the U.S. “Toyota officials justified the location for marketing reasons,” Thomas Klier and James Rubenstein maintain in their book *Who Really Made Your Car*. “What better way to establish credentials as a seller of large trucks...than to build them in Texas.”¹⁰⁹

A second advantage for the automaker and the state is that NUMMI could become an anchor for research and development, as well as new suppliers linked to hybrids or electric vehicles. The plant is in the center of “California’s most innovative region,” according to “Restoring California’s Automotive Industry.” “This region includes not only the businesses and entrepreneurs of ‘Silicon Valley,’ but also the largest concentration of venture capital firms in the world.”¹¹⁰ The start-up automaker Tesla has been awarded a \$460 million loan guarantee to begin producing an electric sedan at a possible location in Long Beach, CA.¹¹¹ NUMMI’s existing suppliers have developed a superb reputation for quality and reliability, and these two plants could serve as critical mass to lure new suppliers and spur the development of a new industry.

Conclusion

The collaborative efforts of Californians, which have bolstered NUMMI's success, are ongoing. A "Red Team" of state, local government, private sector and other officials have proposed significant tax and business incentives to retain the plant.¹¹²

Closing NUMMI now is a decision of choice, not necessity. Closure abandons a loyal, highly-skilled workforce and places a heavy burden on communities and the state when they can least afford it. The decision is inconsistent with the values that have led Toyota to unparalleled economic success. It elevates narrow, short-term corporate interests above the interests of workers, the public and the long-term interests of Toyota itself. "Looking at the pending NUMMI plant shutdown, and then you look at larger problems that Toyota is having in America" Richard Holober, from the Consumer Federation of California, told the Toyota NUMMI Blue Ribbon Commission, "I can't help but conclude that this is not an isolated plant closure decision, but a symptom of a much, much deeper problem with what has happened to Toyota as a corporation."¹¹³

Akio Toyoda, the Toyota president whose grandfather founded the automaker in 1937, admitted at a February 24 Congressional hearing, "recently we haven't lived up to the standards you've come to expect from us or that we expect from ourselves."¹¹⁴ He also stated that one of the automaker's great strengths was facing its mistakes and addressing them. The decision to close NUMMI reflects the period when the automaker pursued a hyper-expansion and abandoned its values in the interest of narrow, short-term financial goals. Toyota, however, has risen to outstanding heights by building its success precisely on strong core values. These included: 1) building only the highest quality vehicles; 2) customer safety first; 3) lifetime job security for its workers; 4) caring partnerships with communities; 5) concern for the environment. A very visible first step toward returning to this successful corporate ethic would be to keep NUMMI open, and show California and the world that the company has reached into its heritage to define its future.

This is the moment for political leaders in Washington and Sacramento to address the closure. Millions of Californians are hurting in the worst job market in seven decades and are deeply apprehensive about the future. The most immediate, direct, and cost effective jobs program available is to keep NUMMI running. This stimulus plan delivers 25,000 jobs and could *save* \$2.3 billion. The automaker and California would reap a triple bottom-line benefit: Toyota would restore its image and retain a world-class plant; workers and their families would make it through a dark economic winter; and California would get further down the road to economic growth and a green future.

Endnotes

- ¹ Employment Development Department, State of California, “California’s Unemployment Rate Unchanged at 12.4 Percent,” Jan. 22, 2010, News Release No. 10-01.
- ² Jerry Nickelsburg, “California: Recovery From the Recession and the Great Budget Head Fake,” *UCLA Anderson Forecast for California*, Los Angeles: UCLA Anderson School of Management, (Dec. 2009), 75.
- ³ U.S. Bureau of Labor Statistics, “Local Area Unemployment Statistics: Alternative Measures of Labor Underutilization for States, 2009 Annual Averages,” <http://www.bls.gov/lau/stalt.htm>.
- ⁴ NUMMI website, “What We’re About,” <http://www.nummi.com/facts.php> (accessed Feb. 27, 2010).
- ⁵ Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, University of the Pacific Eberhardt School of Business, (Jan. 2010), 8.
- ⁶ The total job loss of 24,608 from the NUMMI closure includes the 4,700 NUMMI workers. This figure is from Bruce Kern, the Executive Director of the East Bay Economic Development Alliance, calculated from “NUMMI Manufacturing Employment Multipliers” by the East Bay Economic Development Alliance.
- ⁷ Bruce Kern, “NUMMI: California Economic Impacts,” East Bay Economic Development Alliance, Aug. 16, 2009.
- ⁸ Other estimates range from 20,000 to 50,000 vulnerable jobs, the latter figure NUMMI’s own estimate from NUMMI’s website, “What we’re about,” <http://www.nummi.com/facts.php>.
- ⁹ Executive Office of the President, Council of Economic Advisers, *Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009*, May 2009, 7-9, <http://www.whitehouse.gov/sites/default/files/microsites/Estimate-of-Job-Creation.pdf>
- ¹⁰ The President’s Council of Economic Advisers (CEA) estimated that the direct government spending authorized by the American Recovery and Reinvestment Act (ARRA) of 2009 would create one job-year for every \$92,136 spent. This figure takes account of “direct jobs” on government-sponsored projects (e.g., building infrastructure), “indirect jobs” at suppliers of materials or other inputs to entities with direct jobs, and “induced jobs” because increases in income from direct government spending lead to increases in spending by workers and firms. While \$92,136 may seem like a lot of money to create a job, as CEA points out, the ratio of GDP to employment in the economy as a whole is \$105,000.
- ¹¹ California Employment Development Department (EDD), *California Labor Market Review*, EDD Labor Market Information Division, December 2009, 3. <http://www.labormarketinfo.edd.ca.gov/?pageid=1026>
- ¹² Auto News Data Center, “U.S. light vehicle sales by nameplate, December & 12 months 2009,” <http://www.autonews.com/section/datacenter>
- ¹³ *Ward’s Motor Vehicle Facts & Figures 2009*, (Southfield, MI: Ward’s Communications, 2009), 83.
- ¹⁴ United Auto Workers Research Department, Feb. 2010.
- ¹⁵ Alan Ohnsman and Kae Inoue, “Toyota Will Shut California Plant in First Closure,” Bloomberg, Aug. 28, 2009, <http://www.bloomberg.com/apps/news?pid=20601101&sid=aJlxuxndoOsM>
- ¹⁶ Jeffrey Liker and Michael Hoseus, *Toyota Culture: The Heart and Soul of the Toyota Way* (New York: McGraw-Hill, 2008), 47.
- ¹⁷ California New Car Dealers Association, California Auto Outlook, Vol. 4, No. 1, Released January, 2009. <http://www.cmcda.org>. Automotive News Data Center, “Global Market Data Book 2008,” p. 3 for global sales and p. 13 for U.S. sales, <http://www.autonews.com/section/datacenter>
- ¹⁸ California New Car Dealers Association, “California Auto Outlook,” Vol. 5, No. 1, Released Jan. 2010, 1-4, “Auto Outlook Fourth Quarter 2009” at <http://www.cmcda.org/> (accessed Feb. 23, 2010), Autonews.com, and California Motor Car Dealers Association, California Auto Outlook, Vol. 3, No. 1, Released January, 2008. www.cmcda.org
- ¹⁹ Frank Ahrens, “‘Clunkers’ Generates 690,000 Sales: Toyota is Leader as Program Ends,” *Washington Post*, Aug. 27, 2009.
- ²⁰ Bill Lockyer, State Treasurer of California, “NUMMI History of ETP Grants.”
- ²¹ Ron Brown, Manager Business Development and Marketing at the Port of Oakland, testimony at the Toyota NUMMI Blue Ribbon Commission hearing on the closure of NUMMI, Feb. 24, 2010. California Public Utilities Commission in San Francisco, Hearing Room D.
- ²² “Toyota moving Tacoma production to San Antonio,” *The Austin American-Statesman*, Aug. 28, 2009, <http://www.statesman.com/business/content/business/stories/other/2009/08/28/0828toyota.html>
- ²³ Barry Broad, e-mail to Toyota NUMMI Blue Ribbon Commission Chair Harley Shaiken on Feb. 23, 2010.
- ²⁴ See Appendix A.
- ²⁵ See Appendix A.

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- ²⁶ Toyota production in Japan was 4,872,824 in 2007 according to Automotive News Data Center, “Global Market Data Book 2008,” p. 16. Sales in Japan is on p. 18, <http://www.autonews.com/section/datacenter>
- ²⁷ U.S. Census Bureau, U.S. Bureau of Economic Analysis, “FT 900, 2007 Annual Revisions, Exhibit 17: Annual, Exports and Imports of Motor Vehicles and Parts by Selected Countries: Annual Totals,” http://www.census.gov/foreign-trade/Press-Release/2007pr/final_revisions/
- ²⁸ Richard Holober, testimony at the Toyota NUMMI Blue Ribbon Commission hearing on the closure of NUMMI, Feb. 24, 2010. California Public Utilities Commission in San Francisco, Hearing Room D.
- ²⁹ Toyota Advertisement, *San Francisco Chronicle*, Feb. 28, 2010, page A6.
- ³⁰ Toyota Advertisement, *San Francisco Chronicle*, Feb. 28, 2010, page A6.
- ³¹ U.S. Department of Energy, “Secretary Chu Announces Closing of \$465 Million Loan to Tesla Motors,” press release, Jan. 21, 2010, <http://www.energy.gov/news/8538.htm>.
- ³² Kathy Jackson, “Toyota seeks return to its roots: Value, quality, mpg,” *Automotive News*, Aug. 31, 2009, 15.
- ³³ Akio Toyoda, President, Toyota Motor Corporation testimony to the U.S. House of Representatives Committee on Oversight and Government Reform, Feb. 24, 2010, http://oversight.house.gov/images/stories/Hearings/Committee_on_Oversight/2010/022410_Toyota/TESTIMONY-Toyoda.pdf
- ³⁴ Stephen Levy, *California County Projections*, 2009/2010 Edition, (Palo Alto, CA: Center for Continuing Study of the California Economy, 2009), 2-5.
- ³⁵ Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, 8.
- ³⁶ Stephen Levy, *California County Projections*, 2009/2010 Edition, 2-5.
- ³⁷ Stephen Levy, *California County Projections*, 2009/2010 Edition, 2-6.
- ³⁸ The total job loss of 24,608 from the NUMMI closure includes the 4,700 NUMMI workers. This figure is from Bruce Kern, the Executive Director of the East Bay Economic Development Alliance, calculated from “NUMMI Manufacturing Employment Multipliers” by the East Bay Economic Development Alliance.
- ³⁹ Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, 8.
- ⁴⁰ Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, 11.
- ⁴¹ The Center for Automotive Research (CAR) in Michigan has conducted a number of national-level economic contribution studies related to the auto industry in the U.S. since the early 1990s. The most recent study, “Contribution of Honda to the Economies of Seven States and the United States (January 2009),” provides insights into job impacts. Using economic modeling and company data, CAR concludes that an automotive manufacturing plant creates about 4.8 additional jobs for every job in the factory. These jobs consist of intermediate operations such as suppliers and “spin-off jobs” in the economy. This multiplier indicates that NUMMI would generate 27,250 jobs throughout the country (CAR 2009, 5). In the same study, however, CAR estimates a new Honda plant in Greensburg, Indiana employing 2,000 direct workers would generate a total of 12,840 jobs (CAR 2009, iv). With this multiplier, NUMMI would generate a total of 30,174 jobs. Finally, a CAR study that looked at Toyota found that 9,944 Toyota employees in California—NUMMI plus research and design facilities in Torrance, among others—generated 31,420 additional jobs in the state in 2006. Assuming half are related to NUMMI—a conservative assumption since manufacturing tends to have a higher multiplier than other operations—this would indicate 15,710 additional jobs created for a total of 20,410 in California. The 50,000 jobs NUMMI advertises on its Web site reflect an earlier multiplier that was significantly higher. As CAR puts it, “one component [in auto industry cost reduction efforts] has been for many automotive companies to move higher labor content parts-making operations to lower-wage countries.”
- ⁴² Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, 10.
- ⁴³ Jeffrey A. Michael, *California and Metro Forecast 2010-2014*, 10.
- ⁴⁴ Mark Rehtin, “Analysts see signs of life after a miserable year,” *Automotive News*, Jan. 11, 2010, 3 and John K. Teahen, Jr., “A down year ends on up note,” *Automotive News*, Jan. 11, 2010, 25.
- ⁴⁵ Jesse Snyder, “Detroit’s dismal decade,” *Automotive News*, Jan. 11, 2010, 3.
- ⁴⁶ John Crawley, “Toyota emphasizes U.S. presence to Congress,” *Reuters*, Feb. 13, 2010, <http://www.reuters.com/article/idUSTRE61B5GQ20100213>
- ⁴⁷ Toyota Advertisement, *New Yorker*, Nov. 30, 2009, 27.
- ⁴⁸ See Appendix A.
- ⁴⁹ See Appendix A.
- ⁵⁰ Toyota production in Japan was 4,872,824 in 2007 according to Automotive News Data Center, “Global Market Data Book 2008,” page 16. Sales in Japan is on page 18, <http://www.autonews.com/section/datacenter>

-
- ⁵¹ Projected numbers for 2010 and 2011 are based off of estimates from Goldman Sachs and Pricewaterhouse Coopers. Patrick Archambault, et. al. "Global Auto Industry Update: Assessing the opportunities amid Toyota recalls and market turmoil," Goldman Sachs presentation, Feb. 2010. Sales data is from <http://www.autonews.com/section/datacenter>. See Appendix A for exact numbers and projection percentages for 2010 and 2011.
- ⁵² Automotive News Data Center, "Global Market Data Book 2008," <http://www.autonews.com/section/datacenter>
- ⁵³ David Welch, Keith Naughton and Burt Helm, "How Detroit Can Gain from Toyota's Recalls," *Bloomberg BusinessWeek*, Feb 11, 2010, 40.
- ⁵⁴ Kathy Jackson, "Toyota's Crash and Burn: More than sales are at risk; a reputation is in the balance," *Automotive News*, Feb. 1, 2010, front page.
- ⁵⁵ "Toyota must man up and grow up," *Automotive News*, editorial, Feb. 8, 2010, 12.
- ⁵⁶ Patrick Archambault, et. al. "Global Auto Industry Update: Assessing the opportunities amid Toyota recalls and market turmoil," Goldman Sachs presentation, Feb. 2010, 4.
- ⁵⁷ Goldman Sachs projections for 2010-2012 are from Patrick Archambault, et. al. "Global Auto Industry Update: Assessing the opportunities amid Toyota recalls and market turmoil," Goldman Sachs presentation, Feb. 2010, 8. And Goldman Sachs, "Japan Automobiles," Goldman Sachs Global Investment Research, Feb. 4, 2010, 4.
- ⁵⁸ Ken Belson, "Toyota's Wrecked Image Needs the Right Bodywork," *New York Times*, Feb. 14, 2010, page WK3.
- ⁵⁹ John Shook, "How to Change a Culture: Lessons from NUMMI," *MIT Sloan Management Review*, (Winter 2010), 63-68.
- ⁶⁰ Jeffrey Liker and Michael Hoseus, *Toyota Culture: The Heart and Soul of the Toyota Way*, 47.
- ⁶¹ John Shook, "How to Change a Culture: Lessons from NUMMI," 64.
- ⁶² "Toyota set to scrap NUMMI," *Nikkei Weekly* (Japan), Jul. 27, 2009.
- ⁶³ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 54.
- ⁶⁴ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 54.
- ⁶⁵ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 54.
- ⁶⁶ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 54.
- ⁶⁷ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 19.
- ⁶⁸ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 106.
- ⁶⁹ Jeffrey Liker and Michael Hoseus, *Toyota Culture*, 78.
- ⁷⁰ UAW Research Dept., Feb. 2010.
- ⁷¹ Akio Toyoda, testimony to the U.S. House of Representatives Committee on Oversight and Government Reform, Feb. 24, 2010,
- ⁷² *The Harbour Report 2007 and 2008* (Troy, Alabama: Oliver Wyman, 2007 and 2008).
- ⁷³ *The Harbour Report 2008*, (Troy, Alabama: Oliver Wyman, 2008).
- ⁷⁴ *The Harbour Report 2003-2008*, (Troy, Alabama: Oliver Wyman, 2003-2008).
- ⁷⁵ *The Harbour Report 2008*, (Troy, Alabama: Oliver Wyman, 2008).
- ⁷⁶ For rankings, see <http://www.nummi.com/awards.php> and <http://www.jdpower.com/autos/Toyota/> for years 2001-2006.
- ⁷⁷ For rankings, see <http://www.nummi.com/awards.php>, <http://www.jdpower.com/autos/Toyota/Tacoma/2002/Pickup/ratings>, and <http://www.jdpower.com/autos/Toyota/Tacoma/2007/Pickup/ratings>
- ⁷⁸ United Auto Workers Research Department, Feb. 2010.
- ⁷⁹ James Lentz, President and Chief Operating Officer, Toyota Motor Sales, U.S.A., Inc., testimony before the U.S. House of Representatives Committee on Energy and Commerce, Feb. 23, 2010.
- ⁸⁰ Automotive News Data Center, <http://www.autonews.com/section/datacenter>
- ⁸¹ Automotive News Data Center, "North America car and truck production," with latest updates for 1/1/2010-2/27/2010, (accessed March 2, 2010) <http://www.autonews.com/section/datacenter>
- ⁸² Norihiko Shirouzu, "Toyota Weighs Shutting California Site," *Wall Street Journal*, Aug. 19, 2009, <http://online.wsj.com/article/SB125059665514339835.html>
- ⁸³ Toyota Motor Manufacturing, Texas, Inc. website, http://www.toyota.com/about/our_business/operations/manufacturing/tmmtx/ (accessed March 1, 2010). And Holbrook Mohr, "Toyota plant promised to Mississippi town has yet to materialize," *Associated Press*, *The Tennessean*, March 1, 2010.
- ⁸⁴ See Appendix A and B.

-
- ⁸⁵ George Avalos, “NUMMI ‘not financially viable’: Despite pressure, Toyota exec says plant will close,” *Oakland Tribune*, updated Feb. 25, 2010, http://www.insidebayarea.com/news/ci_14463703
- ⁸⁶ “Toyota Corolla ebrochure.” Toyota estimates cost of shipping a new Corolla is \$750, <http://www.toyota.com/corolla/ebrochure.html>
- ⁸⁷ National Highway Traffic Safety Administration, “Part 583 American Automobile Labeling Act (AALA) Reports,” 2009.
- ⁸⁸ Ron Brown, Manager Business Development and Marketing at the Port of Oakland, testimony at the Toyota NUMMI Blue Ribbon Commission, Feb. 24, 2010.
- ⁸⁹ TABC, Inc. website, (accessed March 2, 2010), http://www.toyota.com/about/our_business/operations/manufacturing/tabc/
- ⁹⁰ Toyota Motor Manufacturing de Baja California, S. De R.L. De C.V. (TMMBC) website, (accessed March 2, 2010), http://www.toyota.com/about/our_business/operations/manufacturing/tmmbc/
- ⁹¹ Chavon Sutton, “GM plant to add 1,200 jobs at Lordstown, Ohio,” CNN Money.com, Feb. 23, 2010, http://money.cnn.com/2010/02/23/news/companies/GM_ohio_plant/index.htm
- ⁹² Tom Abate, “Nummi workers to get federal assistance,” *San Francisco Chronicle*, Nov. 25, 2009, http://articles.sfgate.com/2009-11-25/business/17180696_1_jobs-tax-credit-aid
- ⁹³ Tom Abate, “Nummi workers to get federal assistance.”
- ⁹⁴ Executive Office of the President, Council of Economic Advisers, *Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009*, May 2009, 7-9.
- ⁹⁵ 4,700 jobs multiplied by \$92,136 equals \$433,039,200. This estimate from the President’s Council of Economic Advisers is used to illustrate how much it could cost to recreate the jobs lost at NUMMI through a government job stimulus program.
- ⁹⁶ Executive Office of the President, Council of Economic Advisers, *Estimates of Job Creation from the American Recovery and Reinvestment Act of 2009*, May 2009, 7-9.
- ⁹⁷ The Institute for Taxation and Economic Policy (ITEP) estimates that, for non-elderly taxpayers, state and local taxes in California vary between 8.3% and 10.2% of income depending income level (http://www.itepnet.org/wp2009/ca_whopays_factsheet.pdf). The 9% figure used in the text is a rough estimate of the state and local tax share of total state income.
- ⁹⁸ Peter S. Goodman, “The New Poor: Millions of Unemployed Face Years Without Employment,” *New York Times*, Feb. 21, 2010, front page.
- ⁹⁹ Peter S. Goodman, “The New Poor: Millions of Unemployed Face Years Without Employment,” front page.
- ¹⁰⁰ Kai Filion and Algernon Austin, “Unequal unemployment for African Americans and Hispanics,” Economic Policy Institute, July 22, 2009, http://www.epi.org/publications/entry/unequal_unemployment_for_african_americans_and_hispanics/
- ¹⁰¹ Sergio Santos, testimony at the Toyota NUMMI Blue Ribbon Commission hearing, Feb. 24, 2010.
- ¹⁰² Mari Alvarez, testimony at the Toyota NUMMI Blue Ribbon Commission hearing, Feb. 24, 2010.
- ¹⁰³ Michael Luo, “For Workers at Closing Plant, Ordeal Included Heart Attacks,” *New York Times*, Feb. 25, 2010, front page.
- ¹⁰⁴ Michael Luo, “For Workers at Closing Plant, Ordeal Included Heart Attacks,” front page.
- ¹⁰⁵ Tom Abate, “History likely to repeat itself at NUMMI site,” *San Francisco Chronicle*, Feb. 28, 2010, <http://articles.sfgate.com/2010-02-28/business/17959747>
- ¹⁰⁶ Mark Glover, “When recalls are over, will Golden State still love Prius?” *The Sacramento Bee*, Feb. 10, 2010, page 1A.
- ¹⁰⁷ Kathy Jackson, “Toyota seeks return to its roots: Value, quality, mpg,” *Automotive News*, Aug. 31, 2009, 15.
- ¹⁰⁸ Carl Pope, Executive Director of the Sierra Club, submitted letter addressed to Akio Toyoda to the Toyota NUMMI Blue Ribbon Commission hearing, Feb. 24, 2010.
- ¹⁰⁹ Thomas Klier and James Rubenstein, *Who Really Made Your Car? Restructuring and Geographic Change in the Auto Industry*, (Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research, 2008), 148.
- ¹¹⁰ “Restoring California’s Automotive Industry: Maintaining Automotive Manufacturing Leadership in California,” an automotive incentive proposal and letter from Gov. Schwarzenegger on behalf of the State of California, County of Alameda, and City of Fremont to Toyota Motor Company, Aug. 25, 2009, <http://www.fremont.gov/DocumentView.aspx?DID=2277>
- ¹¹¹ U.S. Department of Energy, “Secretary Chu Announces Closing of \$465 Million Loan to Tesla Motors,” press release, Jan. 21, 2010, <http://www.energy.gov/news/8538.htm>.
- ¹¹² “Restoring California’s Automotive Industry: Maintaining Automotive Manufacturing Leadership in California.”

¹¹³ Richard Holober, testimony at the Toyota NUMMI Blue Ribbon Commission hearing, Feb. 24, 2010.

¹¹⁴ Akio Toyoda, President, Toyota Motor Corporation testimony to the U.S. House of Representatives Committee on Oversight and Government Reform, Feb. 24, 2010.

Appendix A

Toyota US Light Vehicle Sales and Production

Total Light-Vehicles	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010*	2011*
US Sales	1,619,206	1,741,254	1,756,127	1,866,314	2,060,049	2,260,296	2,542,524	2,620,825	2,217,660	1,770,147	2,046,000	2,404,700
US Production	919,234	921,302	969,900	1,046,496	1,155,591	1,229,205	1,201,892	1,334,160	1,117,511	868,672	895,109	945,207
Net Imports to US	699,972	819,952	786,227	819,818	904,458	1,031,091	1,340,632	1,286,665	1,100,149	901,475	1,150,891	1,459,493
Net Imports as % of Sales	43.2%	47.1%	44.8%	43.9%	43.9%	45.6%	52.7%	49.1%	49.6%	50.9%	56.3%	60.7%
US Production as % of US Sales	56.8%	52.9%	55.2%	56.1%	56.1%	54.4%	47.3%	50.9%	50.4%	49.1%	43.7%	39.3%

*projected values

Sources

Automotive News. www.autonews.com

Data Center: Market Data Book: North America car and truck production, various years

Data Center: North America car and truck production, various years

Data Center: Canada light-vehicle sales by nameplate, various years

Data Center: Global Market Data Book 2008

Data Center: Market Data Book: North America car and light-truck sales, various years

Data Center: Mexico car and truck sales, various years

Data Center: U.S. car sales, Dec. & YTD 01-07-2002

Data Center: U.S. light-truck sales, Dec. & YTD 01-07-2002

Data Center: U.S. light-vehicle sales by nameplate, various years

2010-2011 projection assumptions

Total light vehicle production includes Camry production at Subaru plant in Indiana

Total US sales projected to increase to 12.4 million units in 2010, 13.9 million in 2011

Toyota market share projected to be 17.3% in 2010 and 2011

Toyota US sales therefore projected to increase to 2,046,000 in 2010, and to 2,404,700 in 2011

2010 production assumes three months of NUMMI production. Subsequent Tacoma production remains in the US, Corolla production moves abroad

2010 production assumes remaining domestic capacity increases production by same rate as Toyota US sales

2011 production assumes no NUMMI production. Tacoma production shifts to TX

2011 production assumes remaining domestic capacity increases production by same rate as Toyota US sales

Total sales projections from Sean McAlinden. 2009. "Picking Up the Pieces: The Year Ahead." Center for Automotive Research. Online: http://www.cargroup.org/Breakfast/December_Breakfast.html

Toyota market share projections from Goldman Sachs. February 2009. "Global Auto Industry Update: Assessing the opportunities amid Toyota recalls and market turmoil."

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Appendix B

Toyota 2011 Production Capacity Projections, Based on 2007 levels

Plant	2007 Production	2011 Full Production Capacity with NUMMI [†]	2011 Projected Capacity W/O NUMMI [†]	2011 Projected Capacity W/O NUMMI or Tupelo [†]
NUMMI Corolla	200,194	249,565	0	0
NUMMI Tacoma	158,325	158,325	0	0
Subaru*	38,009	91,663	91,663	91,663
Georgetown Car	514,590	514,590	514,590	514,590
Princeton Truck	284,423	284,423	284,423	284,423
San Antonio Truck**	138,619	200,000	200,000	200,000
Tupelo Car	0	150,000	150,000	0
TOTAL	1,334,160	1,648,566	1,240,676	1,090,676
As % of 2.4 Million 2011 Projected Sales		68.6%	51.6%	45.4%

Sources:

-Toyota 2007 production from Automotive News 2009 Market Data: North American Production, <http://www.autonews.com/section/datacenter>

-Total sales projections from Sean McAlinden, "Picking Up the Pieces: The Year Ahead," 2009, Center for Automotive Research, http://www.cargroup.org/Breakfast/December_Breakfast.html

-Toyota market share projections from Goldman Sachs. Patrick Archambault, et. al. "Global Auto Industry Update: Assessing the opportunities amid Toyota recalls and market turmoil," Goldman Sachs presentation, Feb. 2010.

[†] Projected values for 2011

*2011 Projected capacity based on production of 91,663 Toyota cars in 2008

** 2011 Projected capacity presumes Toyota can increase production to 200,000 vehicles