

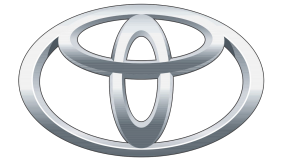


**TOYOTA**

Class: Big Data Analytics  
Erin, Landon, Mayumi, Tyler Branum, Alenga

# Executive Summary

- Globally, 14 car companies control the 54 largest brands. In 2020, the Toyota brand had the largest global market share at 8.5% of the total market (Carlier, 2021).
- Our Analysis focused on recommendations for the U.S. market as well as international expansion by focusing on the following questions:
  - *Who is the most profitable Customer to serve?*
  - *What vehicle category is the most profitable?*
  - *Which international city would be most promising for international expansion?*
- The analysis showed that the most profitable customer segments were those that live in large cities, and the most profitable vehicle type are the sedans. Toyota is within the top 3 leaders in its industry in most countries, however, India is not one of its top markets, it lags major competitors and held only 3.4% of the market in 2021 (Statista, 2021). We believe that Toyota has the ability to grow its market share in India. Specifically, we plan to target the largest city in India, Mumbai. PESTEL analysis shows that while they may face some challenges from political and legal conditions, the economic, technological and environmental market conditions look promising. We believe that with targeted marketing and promotion strategies they can grow their market share. Such strategies include:
  - Boost Electric Sedan Production in Mumbai
  - Invest in more TV ad campaigns in the Mumbai market.



TOYOTA

# Internal Marketing Assessment

# 4P's Analysis: Product

## Insights

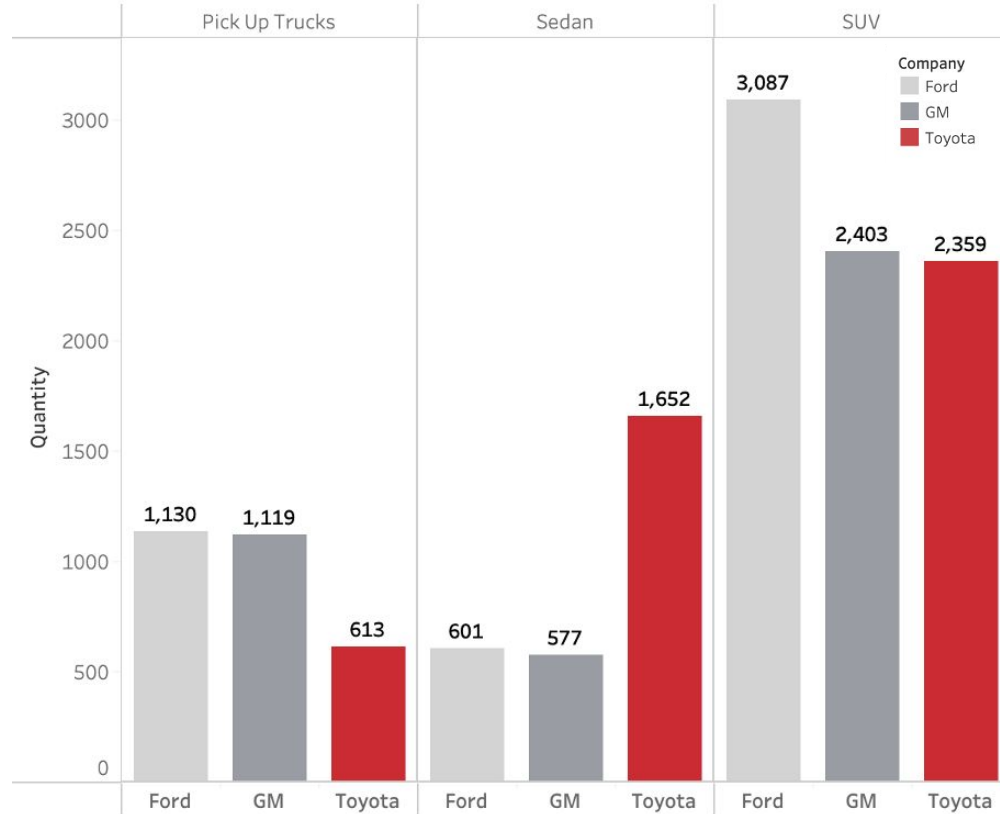
Of its 3 product lines, SUV's make up more than 50% of Toyota sales. Followed by Sedans at 36% of total sales. They sell almost 4 times as many SUVs as pickup trucks.

Although SUVs are the most popular, Toyota still lags Ford and GM in this category. However, they have almost triple the amount of sales of in Sedans as Ford and GM. Toyota also lags behind Ford and GM in pickup truck sales.

**Implication:** Toyota's strongest vehicle category are Sedans where it has the strongest lead against competitors. Toyota should focus on the continued growth of the sedan category.

## Product

### Quantity Sold by Vehicle Category



# 4P's Analysis: Price

## Insights

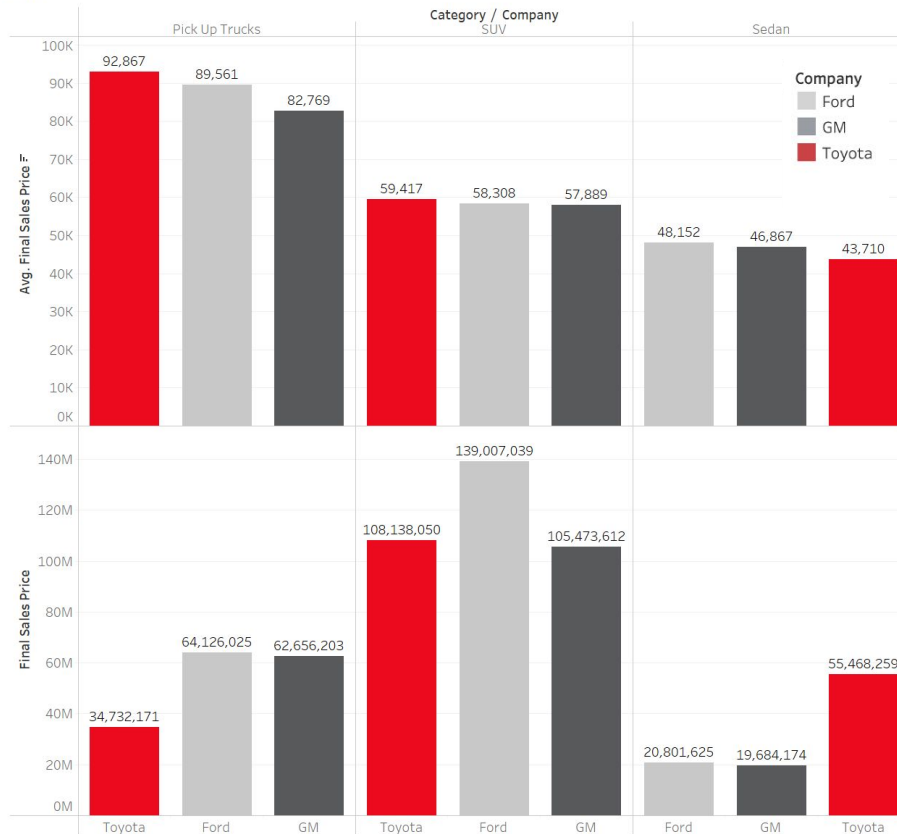
Toyota's pickup trucks, on average, has a higher final sales price but sells low quantity and profits 55% less compared to Ford or GM.

SUV sales are roughly equal in price across the competition while the total Ford sales being the highest.

However, in the case of Sedans, Toyota sells a higher quantity by 62% in final sales profit over the competition at a slightly lower average price of the vehicles.

**Implication:** Toyota can continue driving a wedge in the sedan category between themselves and the competitors through additional focus on competitive pricing.

## Price



# 4P's Analysis: Place

## Insights

The top 5 Cities of Vehicles Sold Makes up 28.6% of the total US market for Toyota.

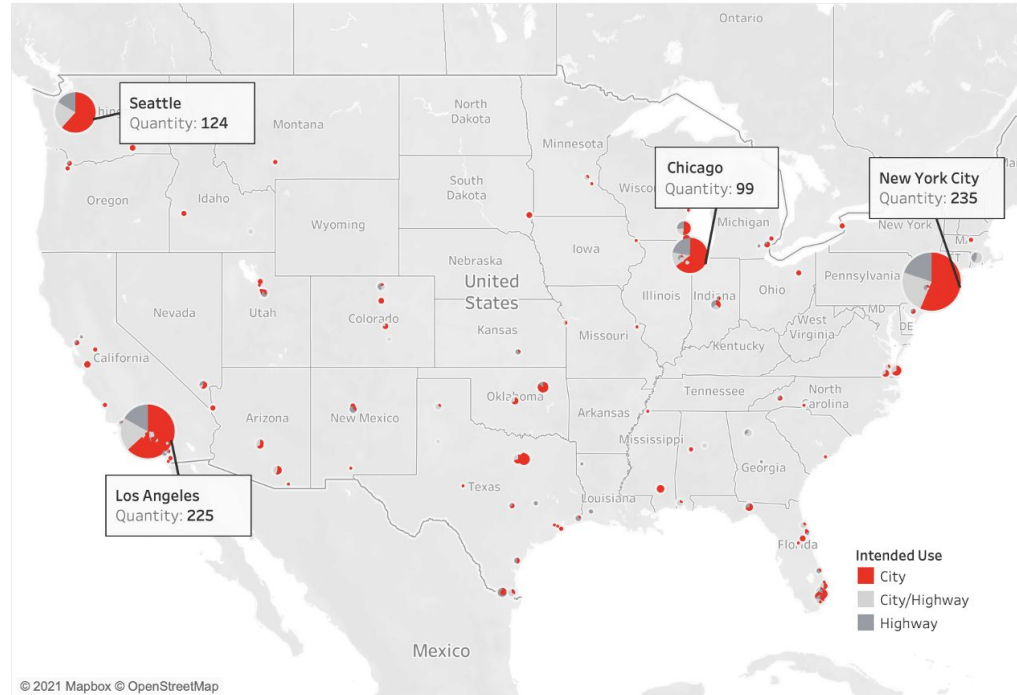
New York:	9%
Los Angeles:	7%
Philadelphia:	6%
Seattle:	4.5%
Chicago:	2.1%
<u>Total:</u>	<u>28.6%</u>

## Implication:

Future expansionary plans should keep in mind larger cities provide the majority of sales. Toyota's strongest sales category is sedans. This makes sense as sedans are more city friendly (Compact space and a need for better city mpg vs. highway).

## Place:

Total Quantity Sold in Cities by Intended Use



Map based on Longitude (generated) and Latitude (generated). Color shows details about Intended Use. Size shows sum of Quantity. Details are shown for City. The data is filtered on Order Date Year and Company. The Order Date Year filter keeps 2017, 2018, 2019 and 2020. The Company filter keeps Toyota.

# 4P's Analysis: Promotion

## Insights

Toyota's costs are ~consistent across each method of promotion advertising, and is often cheaper than the competitors.

Toyota's expenditure is the same as Magazines but are providing ~5% more in gross margins.

Gross Margins are significantly higher than the competitors, even through comparisons of other promotional channels Toyota is seeing greater returns when applying TV advertising than when using no promotional option.

## Implication:

Use successful practices in their TV ad campaigns in other avenues of advertising and invest more capital for greater exposure in the TV ad channel.

## Promotions:

### Profit Margins | Cost of Advertisements



Average of Gross Margin % and sum of Cost of Event Advertisement for each Promotion Type. Color shows details about Company. For pane Average of Gross Margin %: The marks are labeled by average of Gross Margin %. For pane Sum of Cost of Event Advertisement: The marks are labeled by sum of Cost of Event Advertisement. The data is filtered on Order Date Year, which keeps 2017, 2018, 2019 and 2020.

## Top Insights

We concluded that Toyota's Sedans provide its customers with Functional and Economic value.

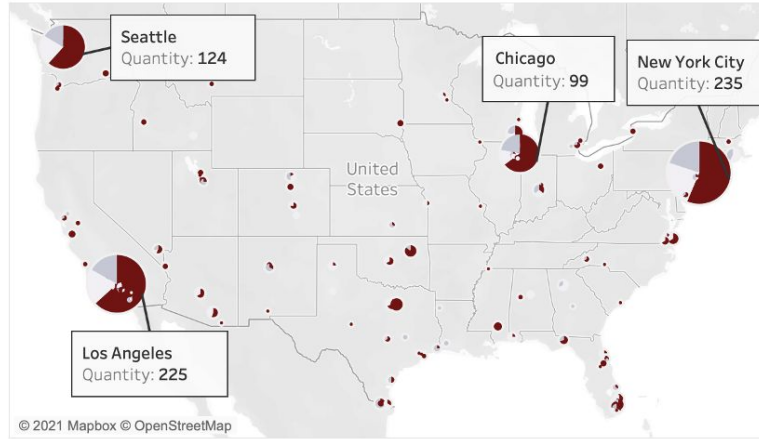
Marketing managers at Toyota can enhance customer value perception by promoting their lower costs of Sedan's using the price category through promotional channels such as TV and Social media advertising.



### Place:

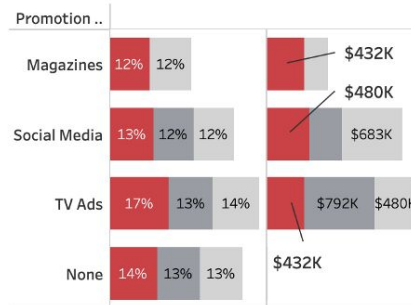
Year: Master Multiple values

#### Total Quantity Sold in Cities by Intended Use



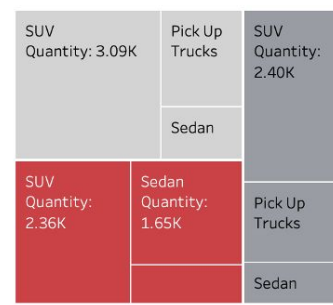
### Promotions:

#### Profit Margins | Cost of Ads



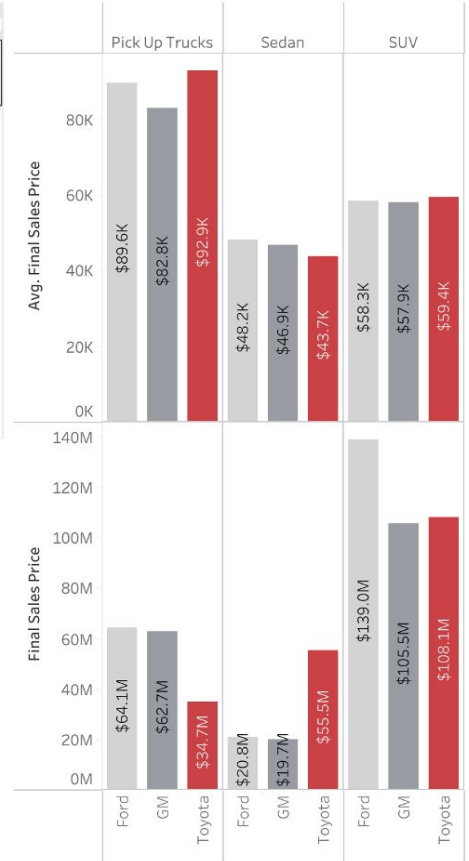
### Product:

#### Quantity by Vehicle Type



### Price:

#### Sales Price by Vehicle Type





# External Marketing Assessment



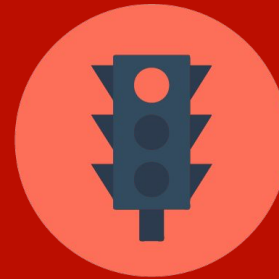
## PESTEL Analysis: **Mumbai, India**



Opportunity



Neutral



Threats

# PESTEL Analysis: Political



Political Risk rating: BBB (EIU Digital)

- Large parliamentary majority control and current weakness of opposing sides makes it unlikely that any coup or unseating of the government will take place. (EIU Digital)
- Not a member state to the International Centre for the Settlement of Investment Disputes (ICSID).
- Farmer's Protests (2021)
  - Can cause supply chain obstacles and closures of businesses at times

## India's Credit Ratings:

Agency	Rating	Outlook	Date
Moody's	Baa3	stable	Oct 05 2021
DBRS	BBB (low)	stable	May 19 2021
Fitch	BBB-	negative	Jun 18 2020
Moody's	Baa3	negative	Jun 01 2020
DBRS	BBB	negative	May 21 2020
Moody's	Baa2	negative	Nov 07 2019
Moody's	Baa2	stable	Nov 16 2017
DBRS	BBB	stable	Nov 05 2015
Moody's	Baa3	positive	Apr 09 2015
DBRS	BBB (low)	positive	Nov 05 2014
S&P	BBB-	stable	Sep 26 2014
DBRS	BBB(low)	stable	Sep 30 2013
Fitch	BBB-	stable	Jun 12 2013

India Rating," *Trading Economics* , Nov. 2021, <https://tradingeconomics.com/india/rating>.

# PESTEL Analysis: Economic



Mumbai is the industrial and financial hub of India, accounting for 6.16% of India's entire economy with a GDP of \$400 billion. It is estimated that by 2030 India will be the third largest economy in the world (Desjardins, 2019).

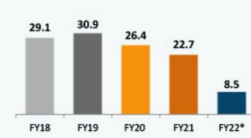
Mumbai is also India's most expensive city to live in according to Mercer's 2021 Cost of Living. According to Housing.com, the average salary in various industries in Mumbai ranges on average of Rs 4.4 lakhs - Rs 8.5 lakhs (\$5863-11325 USD).

India's automotive industry is the 5th largest in the world using 2020 statistics from OICA. According to India's Brand Equity Foundation (IBEF), The Indian automotive industry is expected to be worth \$300 Billion USD by 2026; by 2030, the Centre for Energy Finance (CEF) has estimated the investment opportunity for Eco-Friendly EV to reach \$206 Billion USD.

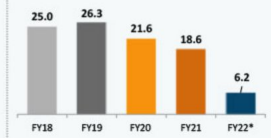


## MARKET SIZE

Number Of Automobiles Produced (in million)



Number of Automobiles Sold in India (in million)

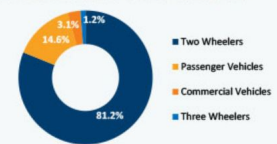


Note: \*From April 2021 to August 2021



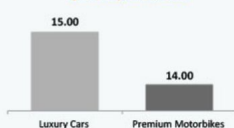
## SECTOR COMPOSITION

Share Of Each Segment In Total Production Volume (FY21)



## KEY TRENDS

Sales of Luxury Vehicles ('000 units) during April to September 2019



Number Of Automobiles Exported (million)



Note: \*From April 2021 to June 2021

# PESTEL Analysis: Social



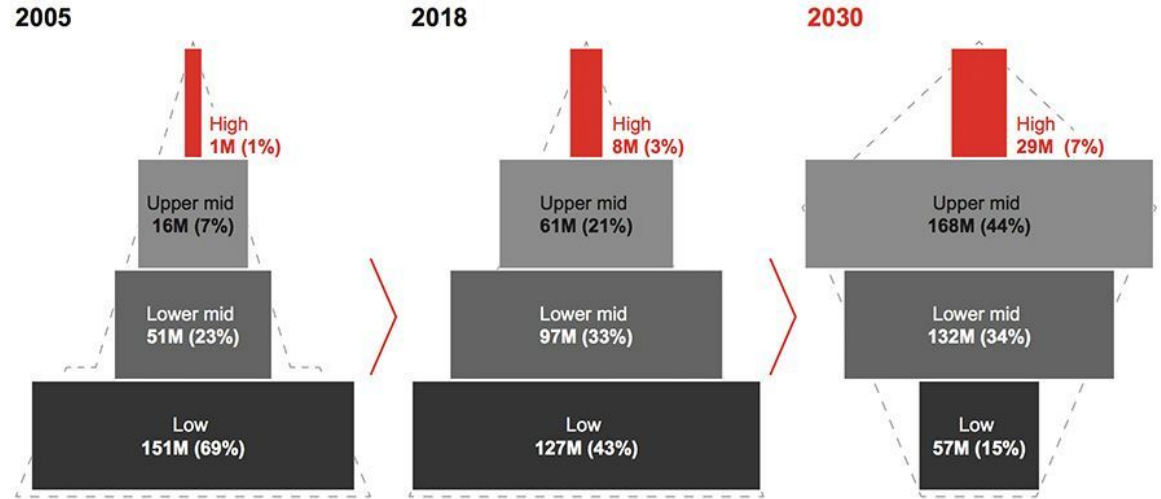
## Television Consumption:

Mumbai has an average of 3 hours 44 minutes TV viewership every day (Laghate, 2018). This is slightly more than the average U.S. household, at 3.1 hours. End of 2020, total TV-viewing homes increased 6.9% totaling 210 million (Press, 2021). Average Household size was 4.4 people in 2020 (ESRI, 2021).

**A growing middle class:** India is experiencing a significant growth in their middle class, it is estimated that the middle class will grow 25% by 2030 (Consultancy.in, 2019). A growing middle class indicates consumers with more disposable income and purchasing power.

By 2030, India will have 140 million more middle-income and 20 million more high-income households

India's income pyramid will transform into an income diamond



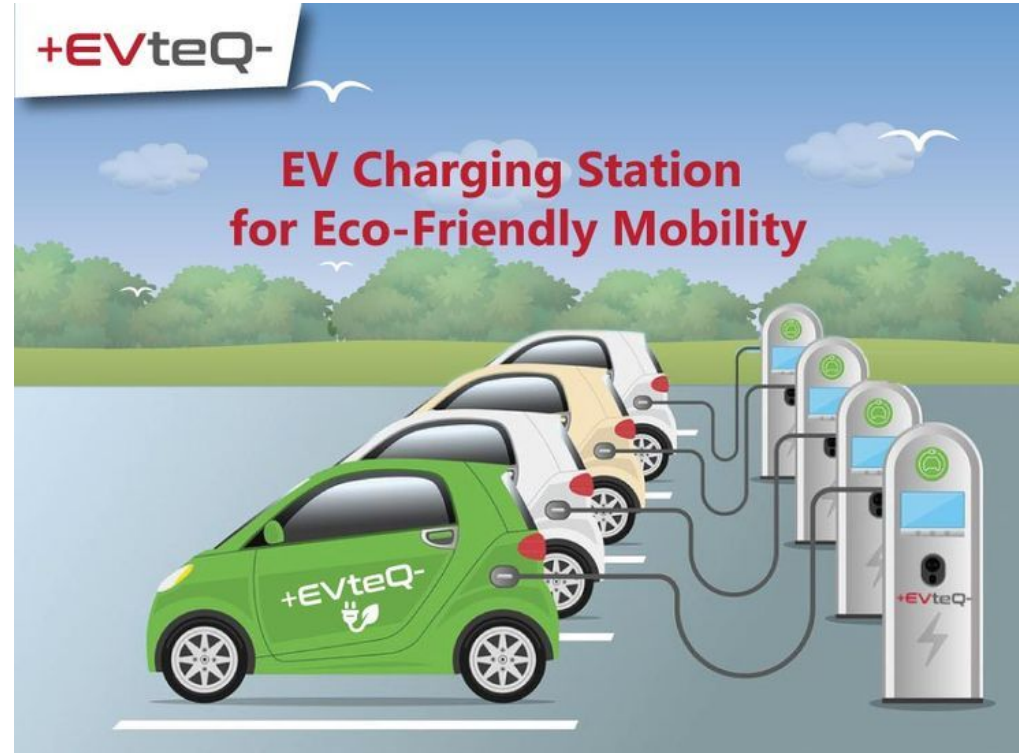
# PESTEL Analysis: Technological



Technology and Sustainability trends in the automotive industry has created a push towards the use of electrical vehicles (EV).

The Indian government is developing infrastructure, (ie, charging points) to support EV technology in both consumer vehicles and for their public transportation systems (A. Gupta, 2021).

In 2017, EVteQ launched their first EV charging station in Mumbai (EvteQ, 2020).



# PESTEL Analysis: Environmental



According to a Greenpeace study, Mumbai ranks 5th in annual deaths due to pollution in 2020 (Borwankar, 2021). India's other large cities also topped the list.

The main drivers of the new government initiatives are to reduce pollution and allow the country to reduce their reliance on crude oil imports (A. Gupta, 2021).

CABINET DECISIONS  
28 FEB 2019

## Big Boost to Electric Cars

Scheme for FAME India Phase II Approved

- Encourage Faster adoption of Electric and hybrid vehicle by offering upfront **Incentive on purchase of Electric vehicles**
- To support **10 Lakhs e2-Wheelers, 5 Lakhs e3-Wheelers, 55000 4-Wheelers and 7000 Buses**
- About **2700 charging stations** will be established in a grid of 3 km x 3 km
- Outlay of **Rs. 10,000 crores** over three years



# PESTEL Analysis: Legal



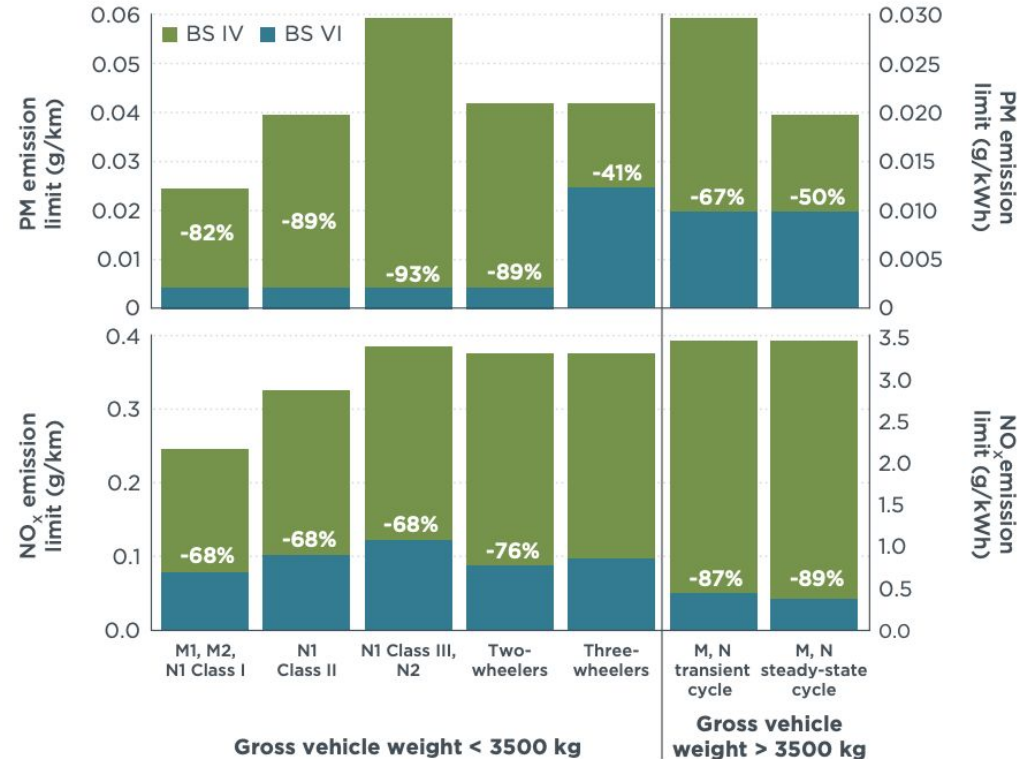
IPR Update in 2016: Enforcement of IP protection

- Toyota lost the rights to use “Prius” in India, due to a trademark complication of another company by the name of Prius Auto Industries (Mohanram, 2017).

Increased Regulation:

- BNVSAP: Bharat New Vehicle Safety Assessment Program in 2017
- Adherence to the “Bharat Stage VI” emission standards, effective in 2020.
  - Aligned with the more stringent Euro 6/VI regulations.
  - Greatly reducing the allowed particulate matter emissions across different vehicle classes (ICCT, 2016).

Bharat Stage 4 vs Bharat Stage 6





# PESTEL Implications

Toyota already has a presence in India with its joint venture Toyota Kirloskar, however they rank 6th in passenger car sales in 2019, a decline from 2018. PESTEL analysis reveals that India, as the 5th largest automotive industry in the world and with a growing middle class with more disposable income presents an opportunity for Toyota to grow its market share in coming years.

Investments by the Indian government in developing infrastructure incentivizes manufacturers to pursue EV technologies. Toyota offers several vehicle models in India, however, the Toyota Prius did not experience initial success when first launched in 2010 in the Indian market (R. Gupta, 2020). The current economic and environmental climate along with shifts in consumer sentiments, may lend itself for another opportunity to enter the electric vehicle market in India.



# Hypothesis 1: Who is the most profitable customer?

## The ideal customer:

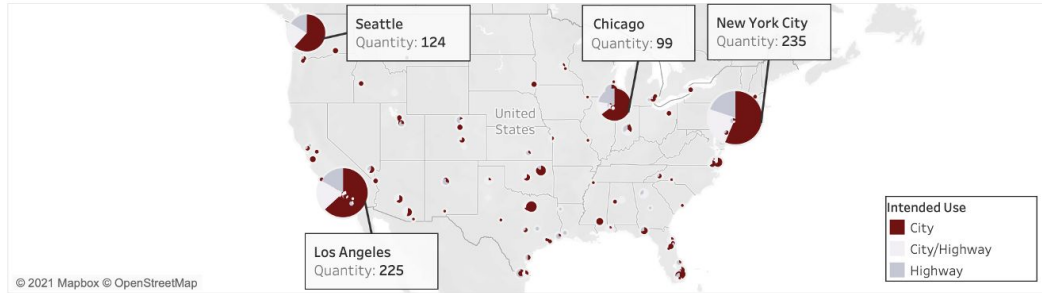
- Lives in a dense city
- Lives with multiple family members
- Owns and watches Television regularly
- Looking for a compact vehicle like a Sedan
- Looking to spend \$20-\$50k on transportation

## The Analysis:

- Toyota can begin targeting this market segment with their Sedan category:
  - Individuals who are looking for compact vehicles and more attractive pricing

### Place:

Total Quantity Sold in Cities by Intended Use



### Correlation Analysis

Gross Margin by Final Sales Price in Top 5 Selling Cities



# Hypothesis 2: What vehicle category is the most profitable?

## Sedans:

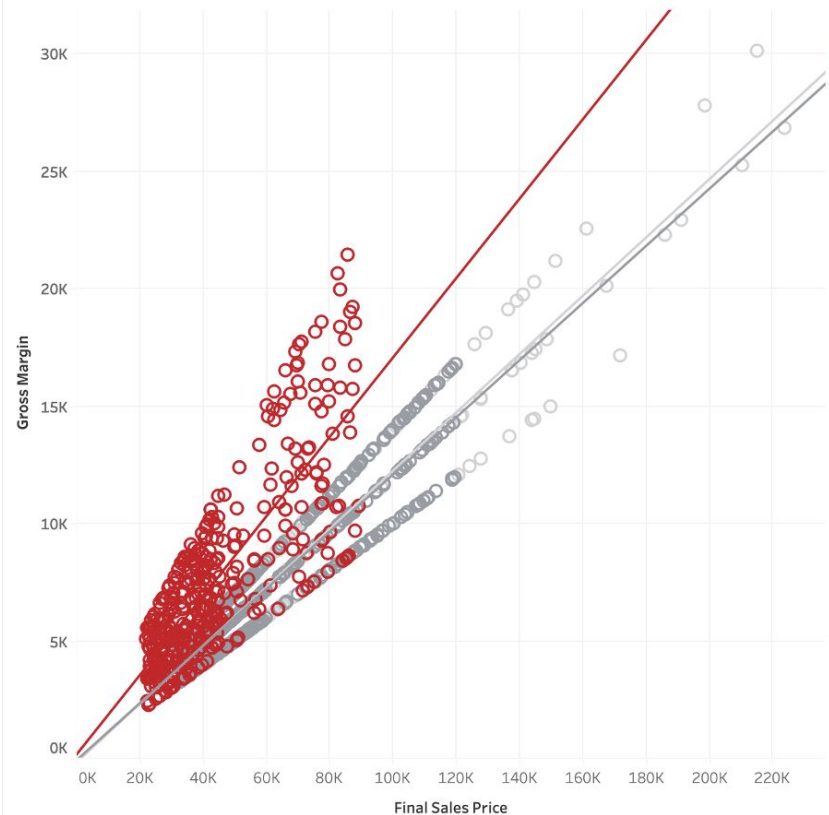
- Compact cars such as sedans are providing a higher margin prior to Toyota increasing prices.
- Sedans also provide the largest volume of sales in comparison to SUVs and Trucks

## The Analysis:

- This allows us to price our vehicles at a more affordable price than our competitors while still retaining attractive margins.
- Sedans are typically city-friendly in regards to mpg (kpl) and compact size.

## Correlation Analysis

Gross Margin by Final Sales Price in Top 5 Selling Cities



Final Sales Price vs. Gross Margin. Color shows details about Category. The data is filtered on Year of Order Date, Company and City. The Year of Order Date filter keeps 2017, 2018, 2019 and 2020. The Company filter keeps Toyota. The City filter keeps Los Angeles, New York City, Philadelphia, San Francisco and Seattle.

# Hypothesis 3 - Which international city would be most promising for expansion?

## Ideal City: Mumbai , India

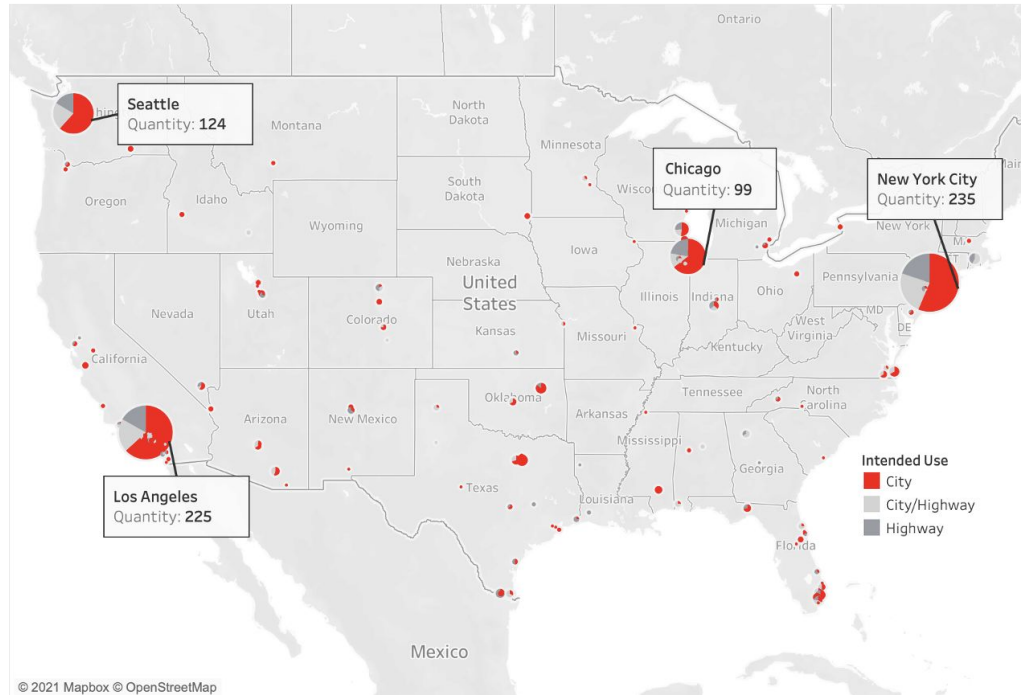
- Population: 20.6 million in 2021
- Population Density: 28,186 / Sq Km
- Car ownership: Increased 24% from 2014 to 2016.
- Vehicle density: 430 vehicles / Kilometer
  - 1 million vehicles on the road

## The Analysis

- Toyota has been more popular in dense cities such as LA, Seattle, Chicago and NYC than rural areas in the US.
- Vehicles intended for the city as well as the sedan category are promising to introduce in a dense city such as Mumbai.

### Place:

Total Quantity Sold in Cities by Intended Use



Map based on Longitude (generated) and Latitude (generated). Color shows details about Intended Use. Size shows sum of Quantity. Details are shown for City. The data is filtered on Order Date Year and Company. The Order Date Year filter keeps 2017, 2018, 2019 and 2020. The Company filter keeps Toyota.

# Recommendation: Boost Electric Sedan Production in Mumbai



**Actionable steps:** Invest into a factory near Mumbai that is specifically focused on eco-friendly electric vehicles with a majority focus on Sedan model vehicles.

## Why?

- The future investment opportunity within the electric vehicle market is speculated to be \$206 billion dollars.
- As noted in the 4 P's, Sedans are leading compared to their competitors showcasing Toyota's niche within the market

# **Recommendation:** Invest in more TV ad campaigns in the Mumbai market.



## **Actionable Steps:**

- Focus advertising investments in Television campaigns that focus on eco-friendly and electric vehicles.
- This advertisement should center around Mumbai's environmental pollution and how electric vehicles are the future to help curing the city and India.
  - Bonus if the advertisement is a tearjerker.

## **Why?**

Our research shows that TV ad campaigns have been the most successful in the United States so by taking a Glocal approach (Global and local hybrid) we can capture a larger market share. This is done by utilizing the approaches that were successful in the U.S. and localizing it to an Indian Market.

# Appendix

- A brief description of why you focused on the hypotheses that you did:
  - We decided to focus the most profitable vehicle because it provided us with a basis on what infrastructures, price points, and mpg (kpl) trends to use in establishing our city Mumbai.
  - Our focus for Toyota's success required locating as many similarities and correlations with the American market to implement overseas for the greatest chance finding success in urban markets.
- Data we wished we had:
  - More detailed information on the most popular models (as opposed to just 3 categories).
  - Having demographics of the buyers. It would have allowed us to see if there trends between certain models or category of vehicles and age ranges and other demographics.
  - Information about where vehicles were purchased (Dealership, 3rd Party, Online, etc).
  - Data external of the US to determine which cities these companies have performed well in.
  - More than three competitors.

# Sources

Borwankar, V. (2021, February 19). *Mumbai ranks 5th in annual deaths due to air pollution: Global study*. The Times of India. Retrieved November 20, 2021, from <https://timesofindia.indiatimes.com/city/mumbai/mum-ranks-5th-in-annual-deaths-due-to-air-pollution-global-study/articleshow/81099733.cms>

Carlier, M. (2021, August 26). Automobile market share worldwide 2018. Retrieved November 20, 2021, from <https://www.statista.com/statistics/316786/global-market-share-of-the-leading-automakers/>

Ceew, C. |. (2020, December 20). Financing India's Transition to Electric Vehicles. CEF | CEEW. Retrieved November 27, 2021, from <https://cef.ceew.in/solutions-factory/publications/financing-india-transition-to-electric-vehicles>

Consultancy.in. (2019, September 23). *Increased healthcare consumption is transforming life sciences in India*. Consultancy. Retrieved November 20, 2021, from <https://www.consultancy.in/news/2501/increased-healthcare-consumption-is-transforming-life-sciences-in-india>

Desjardins, J. (2019, March 10). *14 Companies Control the Entire Auto Industry*. Visual Capitalist. Retrieved November 20, 2021, from <https://www.visualcapitalist.com/14-companies-control-entire-auto-industry/>

ESRI. (2021, May 5). *Average Household Size in India*. Retrieved November 20, 2021, from <https://www.arcgis.com/home/item.html?id=6cf22970ea8c4b338a196879397a76e4>

EVteq - *Electric Vehicle Charging Solution in India*. (2020, August 4). Evteq Mobility Private Limited. Retrieved November 20, 2021, from <http://www.evteqglobal.com/>

India Brand Equity Foundation. (2017, November 1). Automobile Industry in India. Retrieved November 25, 2021, from <https://www.ibef.org/industry/automobiles-presentation>

Gupta, A. (2021, March 16). *View: Indians will plug into electric vehicles—if these barriers are knocked down first*. The Economic Times. Retrieved November 22, 2021, from <https://economictimes.indiatimes.com/industry/auto/auto-news/view-indians-will-plug-into-electric-vehicles-if-these-barriers-are-knocked-down-first/articleshow/81532338.cms?from=mdr>

Gupta, R. (2020, April 30). *Toyota Prius: Why the PHEV didn't work out in India?* The GoMechanic Blog. Retrieved November 22, 2021, from <https://gomechanic.in/blog/why-toyota-prius-india-failed/>

ICCT. (2016, April). *INDIA BHARAT STAGE VI EMISSION STANDARDS*. <https://theicct.org/sites/default/files/publications/India%20BS%20VI%20Policy%20Update%20vF.pdf>

# Sources, Cont'd

India Rating.” *Trading Economics* , Nov. 2021, <https://tradingeconomics.com/india/rating>

*International Centre for Settlement of Investment Disputes*, <https://icsid.worldbank.org/>

Laghate, G. (2018, July 26). *Indians are watching TV for 3 hour 44 minutes every day: BARC India*. The Economic Times. Retrieved November 20, 2021, from <https://economictimes.indiatimes.com/industry/media/entertainment/indians-are-watching-tv-for-3-hour-44-minutes-every-day-barc-india/articleshow/65151371.cms?from=mdr>

Mercer. (2021). Cost of Living city ranking 2021 | Mercer. Mercer.Com. Retrieved November 26, 2021, from <https://www.mercer.com/our-thinking/career/cost-of-living.html>

Mohanram, J. “Supreme Court of India Rules against Toyota; Prius Name No Longer Belongs to Automaker.” *CarToq*, Cartoq.com, 19 Dec. 2019, <https://www.cartoq.com/supreme-court-of-india-rules-against-toyota-prius-name-no-longer-belongs-to-automaker/>

Press Trust of India. (2021, April 15). *TV-owning households in India grew 6.9% to 210 mln in two years: BARC*. Wwww.Business-Standard.Com. Retrieved November 20, 2021, from [https://www.business-standard.com/article/current-affairs/tv-owning-households-in-india-grew-6-9-to-210-mln-in-two-years-barc-121041500923\\_1.html](https://www.business-standard.com/article/current-affairs/tv-owning-households-in-india-grew-6-9-to-210-mln-in-two-years-barc-121041500923_1.html)

Solutions, EIU Digital. “The Economist Intelligence Unit.” India Economy, Politics and GDP Growth Summary - The Economist Intelligence Unit, <https://country.eiu.com/india>

Statista Research Department. (2021, August 27). India: Passenger car market share 2021. Retrieved November 20, 2021, from <https://www.statista.com/statistics/316850/indian-passenger-car-market-share/>

World Data Lab. (2021, April 16). *China vs. India — Where is the momentum in consumer spending?* Retrieved November 20, 2021, from <https://worlddata.io/blog/china-vs-india-where-is-the-momentum-in-consumer-spending>