

2021

# SPEED SURVEY IN URBAN MAHARASHTRA

SURVEY OF VEHICLES ON 34 MAJOR URBAN ROADS IN PUNE, NASHIK, NAGPUR & AURANGABAD





**Parisar**

Yamuna, ICS Colony  
Ganeshkhind Road  
Pune 411 007

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## Surveys conducted by

Nashik	<b>Mr. Joy Gorkal</b>
Aurangabad	<b>Mr. Lalit Jadhav</b>
Nagpur	<b>Mr. Anil Wagh</b>
Pune	<b>Mr. Sukna Dongre Mr. Aditya Chawande Mr. Suraj Jaipurkar Mr. Sandeep Gaikwad</b>

## Details of RSN members

### **Yuwa Daud Manch,**

**Name of contact person and Designation - Mr. Raju Wagh (President)**

Address - 24, Jayashree traders, Bandu sony lay out, IT Park road, Nagpur – 440022

### **Aurangabad First**

**Name of contact person and Designation - Mr. Hemant Landge (Executive Secretary)**

Address - 4th floor, Shreehari, plot no. 36, Gut no. 41, Golwadi T point, Paithan road, Aurangabad – 431005



# Table of contents

<b>Background</b>	<b>1</b>	<b>Nagpur</b>	<b>98</b>
<b>Objective &amp; Methodology</b>	<b>4</b>	Nagpur High court road	102
<b>State Survey Profile</b>	<b>6</b>	Nagpur Central Jail	107
<b>Pune</b>	<b>10</b>	Nagpur Amravati road	112
Pune - Bangalore Highway	14	Nagpur Maharaja baug	117
Baner Road	19	Nagpur Road road	122
Ganeshkhind Road	24	Nagpur Hingna road	127
Old Bombay Pune Highway	29	Hingna road T Point	132
Aundh Ravet Road	34	Nagpur Raj Bhavan	137
Sinhagad Road	39	<b>Aurangabad</b>	<b>142</b>
Swargate Road	44	Aurangabad Paithan road	146
Pune Nashik Highway	49	Aurangabad Jalgoan road	151
<b>Nashik</b>	<b>54</b>	Aurangabad VIP road	156
Nashik, Jail road	58	Aurangabad Beed bypass	161
Nashik Aurangabad	63	Aurangabad Jalna road	166
Nashik Pune	68	Aurangabad Ahmednagar	171
Mumbai Agra	73	Aurangabad MGM road	176
Nashik Artillery road	78	Golwadi T Point	181
Nashik Gangapur road	83	SP office Aurangabad	186
Nashik Trambakeshwar	88	Aurangabad CP road	191
Nashik Sharanpur Link	93	<b>Data Sheet</b>	<b>196</b>



# Background

**More than 1 lakh people were killed due to over-speeding in 2019** as per the annual report on road accidents published by the Ministry of Road Transport and Highways (MoRTH).

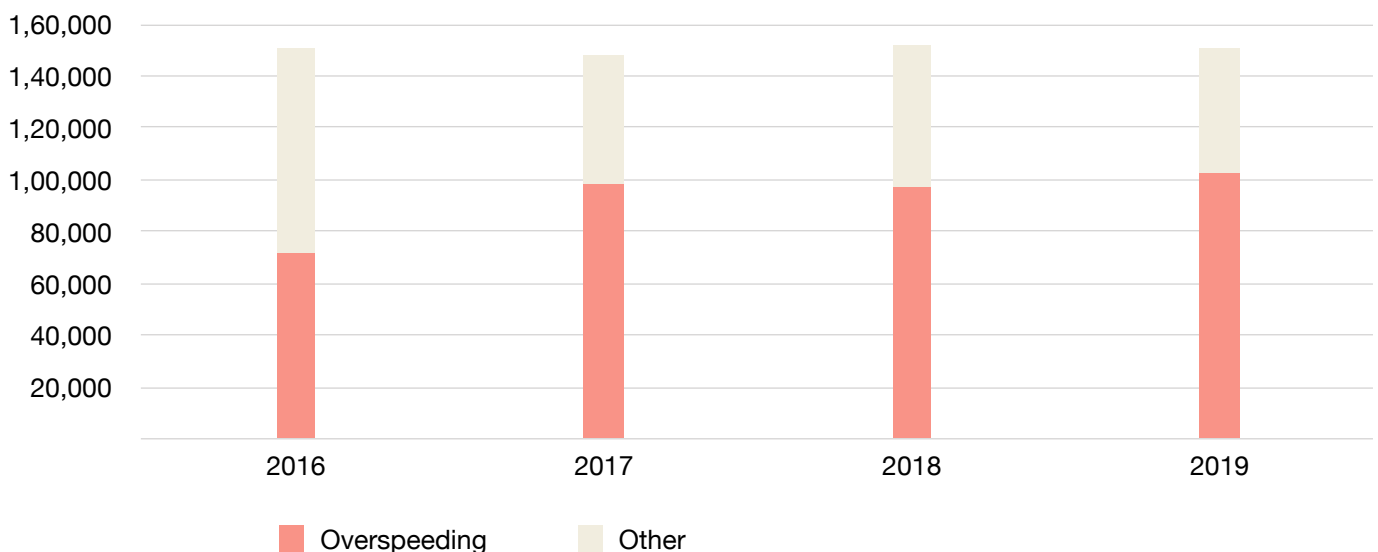
Over-speeding (referred to as just “speeding” in international parlance) accounts for 67% (more than 2/3rd) of all fatalities, and more than 70% of all accidents and injuries.

As per the same report 10,885 persons were killed in million-plus cities due to over-speeding (61% of fatalities in cities) with Jaipur, Delhi, Bengaluru and Chennai topping the list. Mumbai, perhaps due to slower

speeds in the city due to congestion, ranks 31st on this list (120 fatalities). Aurangabad, Nagpur and Nashik all have triple-digit fatalities due to over-speeding. Only Pune ranks 42nd on the list with 70 fatalities.

The situation is also grim for pedestrians. 25,858 pedestrians were killed in road crashes, 17% of all those killed, a 14% increase from the previous year. Cyclists accounted for another ~3%. These are important statistics when we talk about speed because pedestrians and cyclists are especially vulnerable when involved in high-speed collisions.

## Fatalities due to overspeeding



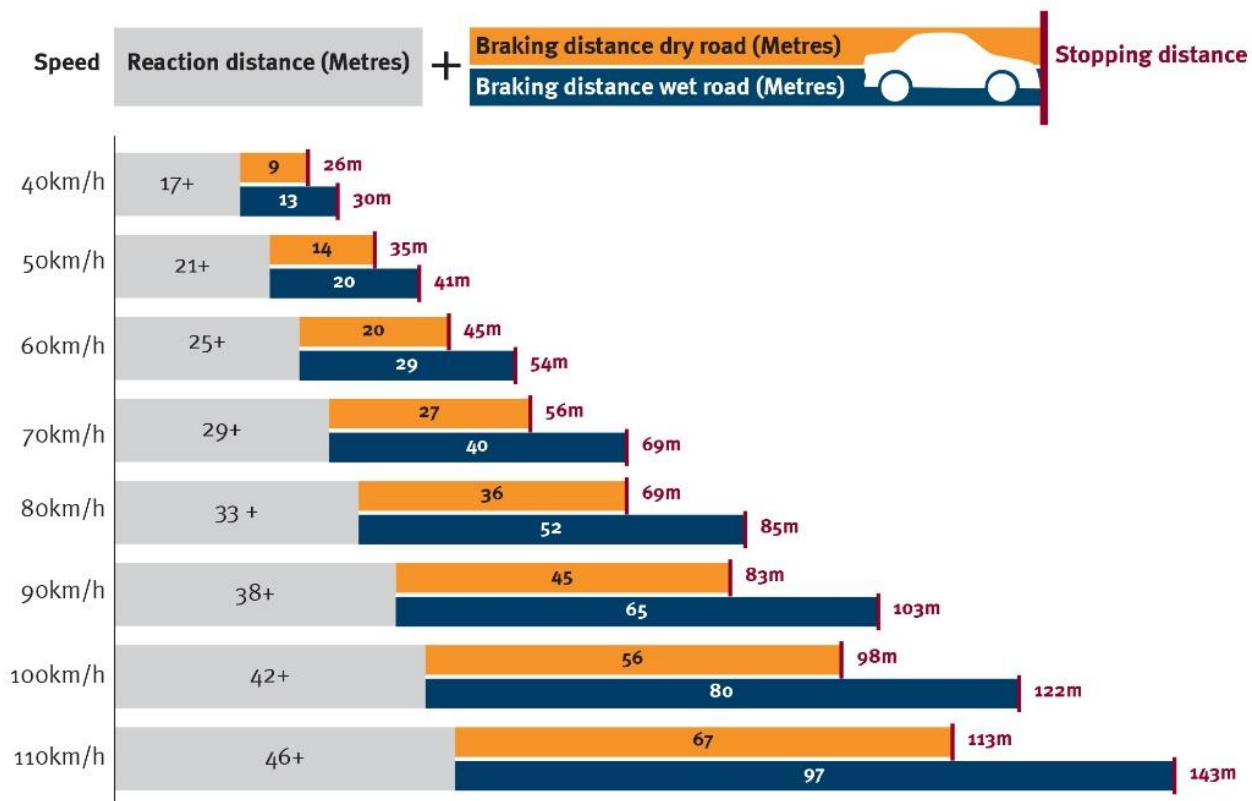
**Speed has a double impact on road crash fatalities and injuries.** Crashes are more likely at higher speeds, since the chances of a driver losing control are higher. It is harder to stop at higher speeds too. At higher speeds, peripheral vision is reduced, making it more likely that a driver will miss noticing a hazard. Speed also increases the severity of a crash – since energy squares with the velocity of the vehicle, an increase of speed by 20% will increase the intensity of the crash by ~50%.

Trying to achieve the target of reducing road traffic crashes and fatalities by 50% by 2030 will therefore need speeds to be controlled. This includes both setting of more appropriate speed limits (given the poor quality of roads, the inadequate facilities for pedestrians and cyclists in cities, and below par driver skills/discipline) as well as stricter enforcement.

The Supreme Court appointed Committee on Road Safety has said so in no uncertain terms. In a letter to all States dated 18th August 2015 it said, “the Committee on the basis of detailed analysis of traffic accidents and fatalities has come to the conclusion that **unless strong and urgent measures are taken to deal with over speeding, drunken driving, red light jumping, violation of helmet laws and seat belt laws, use of mobile phones while driving and over loading, the number of accidents and fatalities will continue to remain high.**”

It went on to recommend the suspension of a drivers’ licence for a period of not less than 3 months for various violations including “driving at a speed exceeding the specified limit”.

### How long it takes to stop (driving an average family car)



Source - <https://www.qld.gov.au/transport/safety/road-safety/driving-safely/stopping-distances>



## **Provisions in the Motor Vehicles Act, 1988**

The Motor Vehicles Act has important provisions related to speeding. It not only provides strict penalties for speeding, but also allows for local authorities to set the speed limits. This is crucial, since speed limits need to be contextual and every road/stretch needs to have a speed limit that ensures the safety of all road users. This provision has been used by the Police in cities in Maharashtra. For e.g., in Aurangabad, the Police have set a city-wide speed limit of 40 kmph.

The Motor Vehicles (Driving) Regulations 2017 have also set a de facto speed limit of 25 kmph in school, hospital and construction sites zones.

## **Survey**

It is with these facts in mind that Parisar decided to undertake a comprehensive speed survey using a speed gun on 34 major roads in 5 major cities in Maharashtra. The results are not surprising and extremely worrying. Speeding is both high and rampant. We hope that the results from this survey will be taken seriously by the enforcement agencies and urgent and effective steps are taken to curtail this public menace.

# Objective & Methodology

## Objectives of the study

- To determine the extent of speed violations on major roads in key cities and understand the patterns - get disaggregated data by vehicle type and time of day
- To make a case for better speed enforcement with the relevant agencies and stakeholders
- To use this information to advocate for an appropriate State-level speed management strategy in cities in Maharashtra

## Sample selection

Below mentioned parameters were considered to select the city for survey

- No. of road crash fatalities data.
- Population as per 2011 census
- Status on urbanisation, industrialisation, etc

As per MoRTH data 2018 and 2019, we have considered road crash fatality data to select cities in Maharashtra. All surveyed cities are largest geographically and among the 1 million plus cities. These cities are emerging and fast growing cities where urbanization and industrialization is rapidly taking place and receiving huge inflow of migration of people. As per the DIMTS report - an audit of various road safety measures undertaken by States in compliance with the directions issued by the Hon'ble Supreme Court in Rajaseekaran v. Union of India and Ors - these cities were taken to understand road safety issues and challenges in the Maharashtra. The table below shows the number of road crash fatalities.

<b>Name of survey city</b>	<b>Number of fatalities in 2018</b>	<b>No. of fatalities in 2019</b>
Pune	352	206
Nashik	217	177
Nagpur	237	250
Aurangabad	161	199

## Methodology

Road Safety Network partner members were consulted in each city to select streets mainly focusing on number of road crash fatalities. Initially, a reconnaissance of various streets in the city was undertaken. Detailed observations were carried out of each street considering the presence of speed limit board, topography of survey location, volume of vehicles, speed calming measures, proximity to signal system, road curve, etc. 4 streets within the city core area and 4 streets from peripheral area were selected.

A data sheet was prepared to collect speed data. A pilot survey was carried out to understand the issues and on-field challenges.

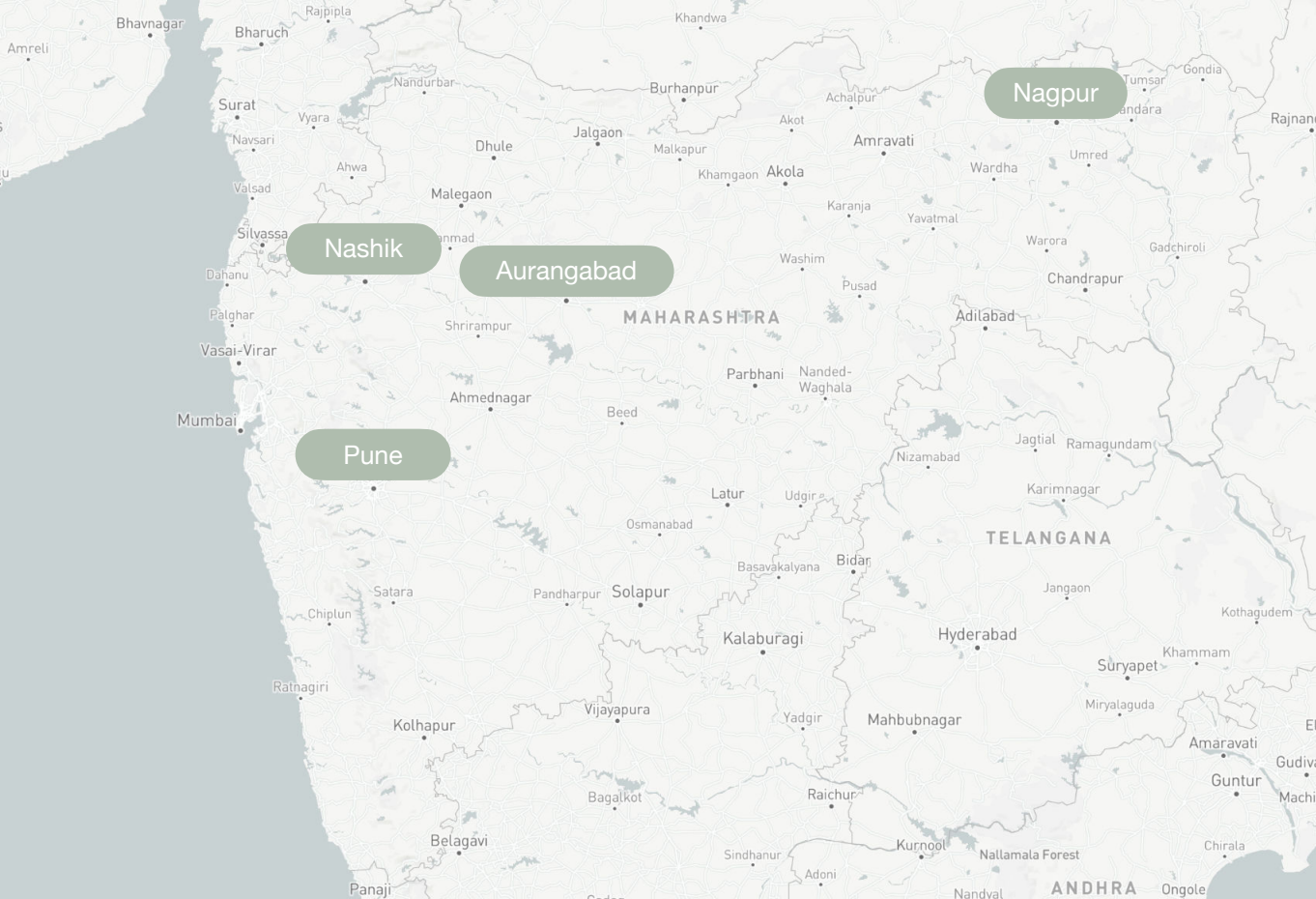
The survey was conducted thrice in a day on each street. It was done in the morning (8:30 to 9:30), in the afternoon (14:30 to 15:30) and in the night (19:30 to 20:30). A volunteer would point to a vehicle and measure the speed of the vehicle using the speed gun. Two methods were adopted to record the speed. A volunteer would simultaneously fill the recorded speed along with the type of vehicle on the data sheet or record the type of vehicle and measured speed and later enter it into the data sheet.

## Data analysis

The type of vehicle and recorded speed along with street name, location, posted speed limit, etc. was entered into excel. Based on the filled data, speed violations were counted. Bar charts and bar charts, speed mode, frequency of speed was measured using pivot table.

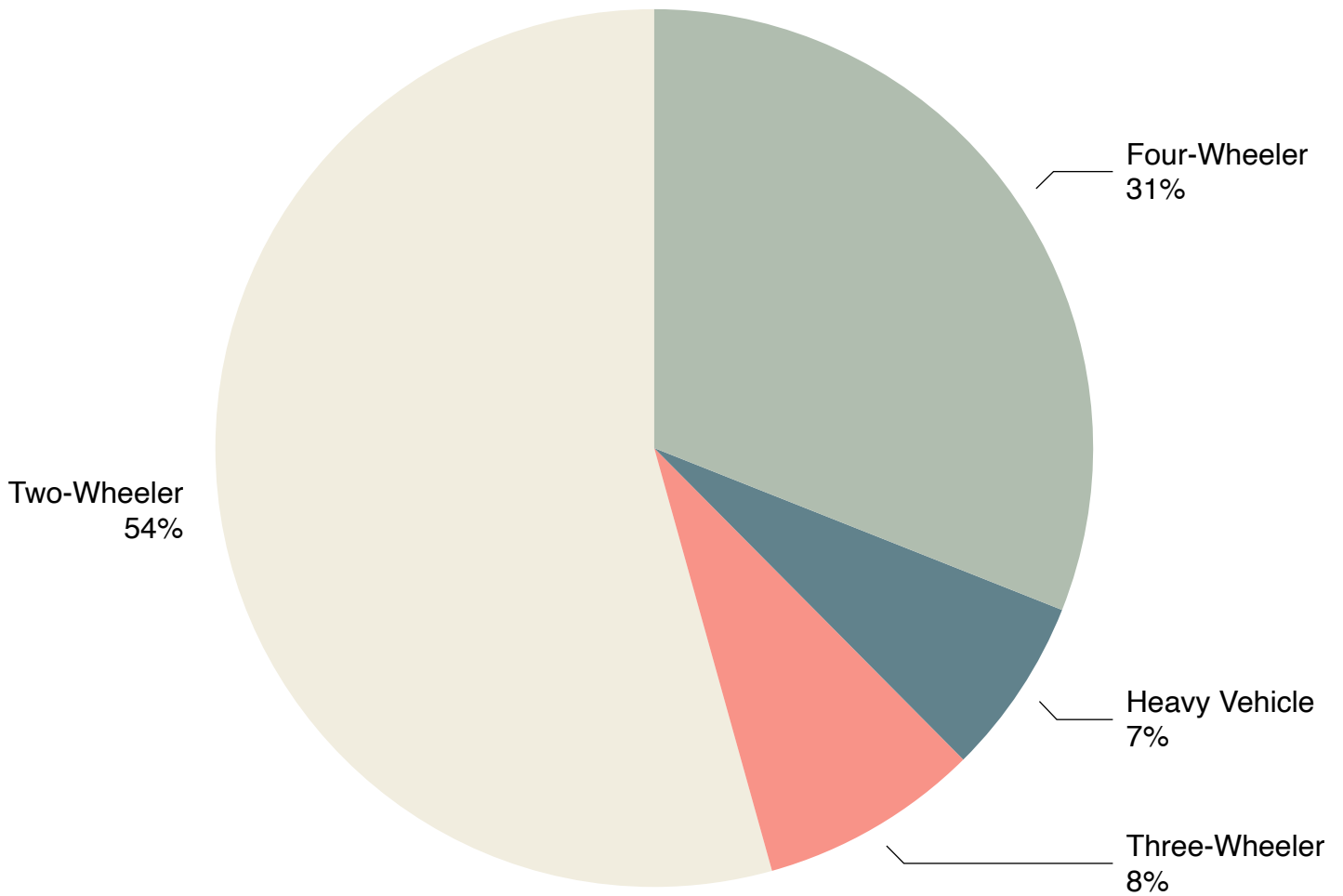
# State Survey Profile

The speed survey was conducted in 4 cities in Maharashtra.



City	No. of Vehicles Surveyed	Roads Surveyed
Aurangabad	12583	10
Nashik	9386	8
Nagpur	7560	8
Pune	5356	8
<b>Total</b>	<b>34885</b>	<b>34</b>

The vehicles surveyed fell into these main 4 categories.



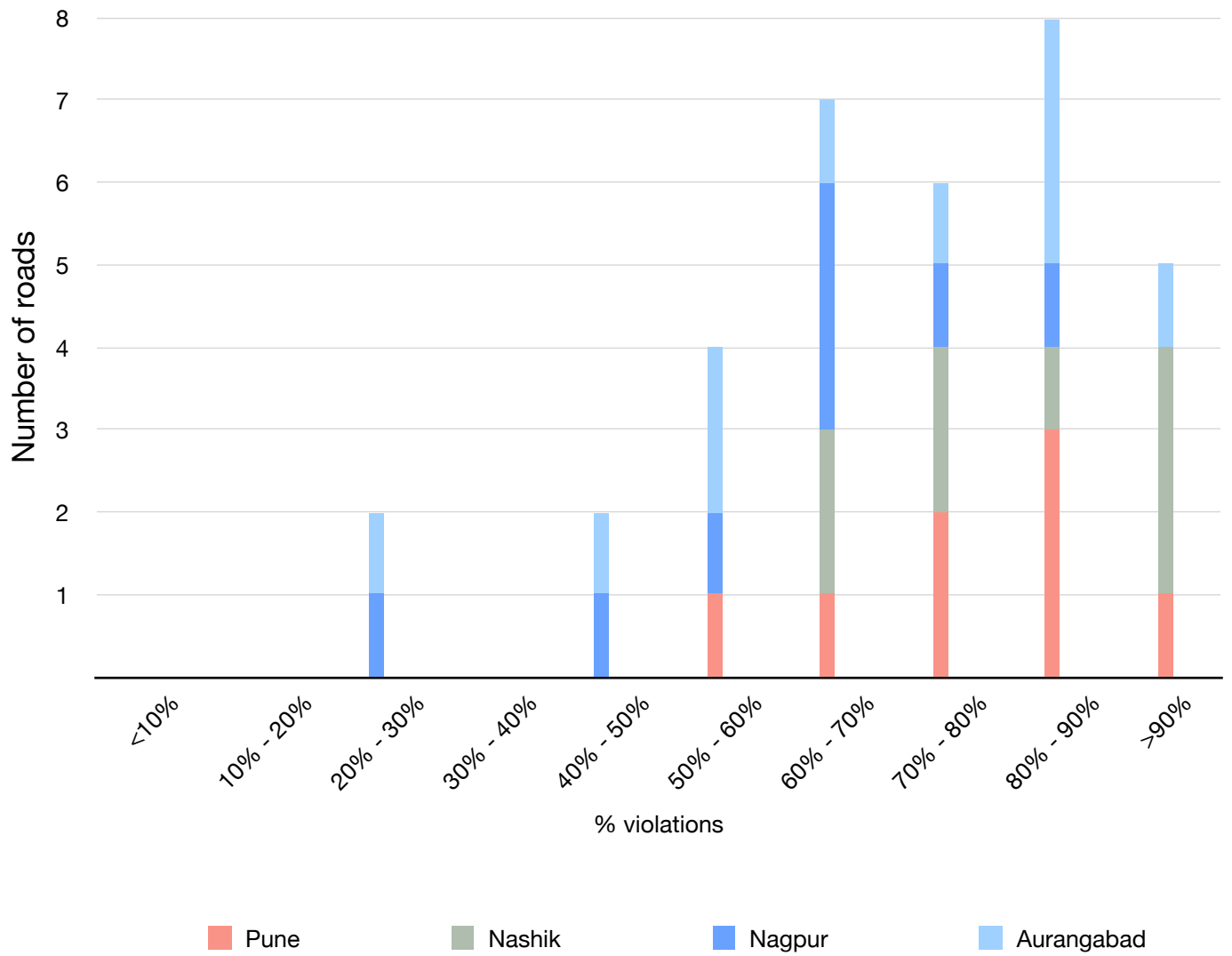
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●	Four-Wheeler	<b>10819</b>	<b>31%</b>
●	Heavy Vehicle	<b>2284</b>	<b>7%</b>
●	Three-Wheeler	<b>2830</b>	<b>8%</b>
●	Two-Wheeler	<b>18952</b>	<b>54%</b>

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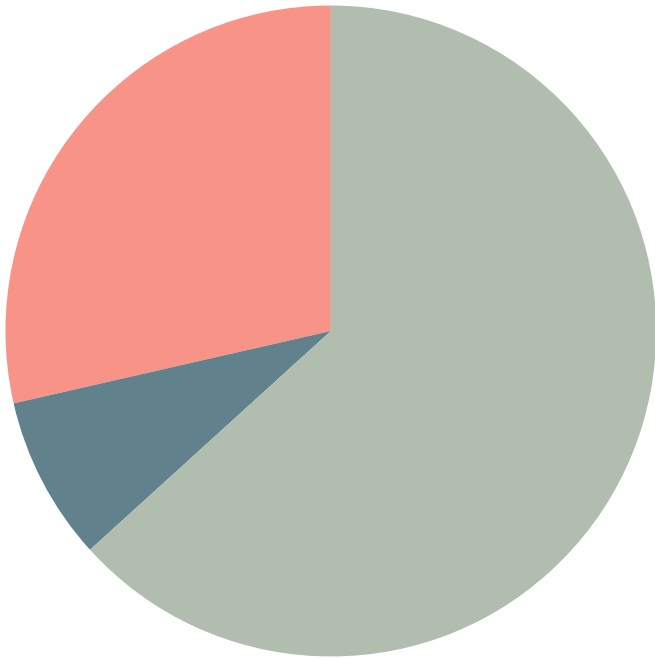
# Results

## Speed Violations % number of roads by city



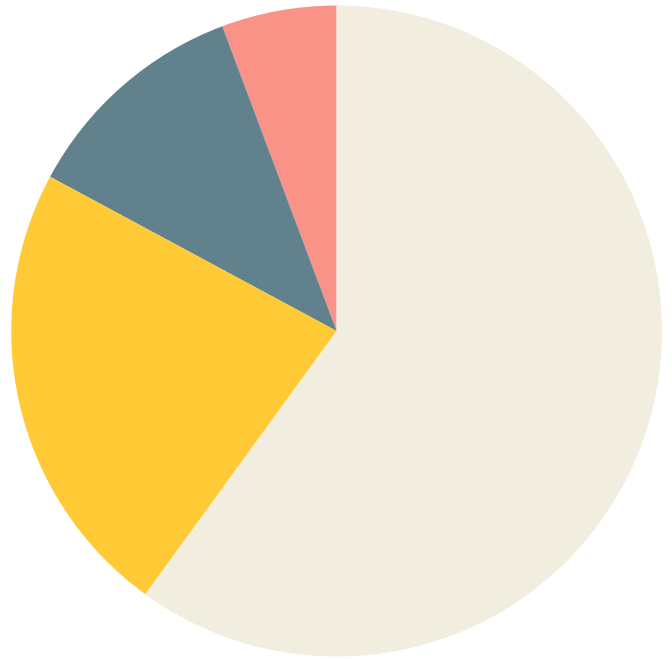
Out of the 34 roads surveyed, 26 roads had a speed violation of 60% or higher, with 5 roads showing that 90% or more vehicles were exceeding the speed limit.

## Excessive Speeding Mode



●	Four-Wheeler	31	63%
●	Heavy Vehicle	4	8%
●	Three-Wheeler	14	29%

## Higher Speed Time



●	Morning	21	60%
●	Afternoon	8	23%
●	Night	4	11%
●	All day	1	6%

Four-wheelers were generally travelling faster, and more four-wheelers were traveling above any given speed (including the speed limit). Overall, we found higher speed violations in the morning.

# Pune

OCTOBER 2020

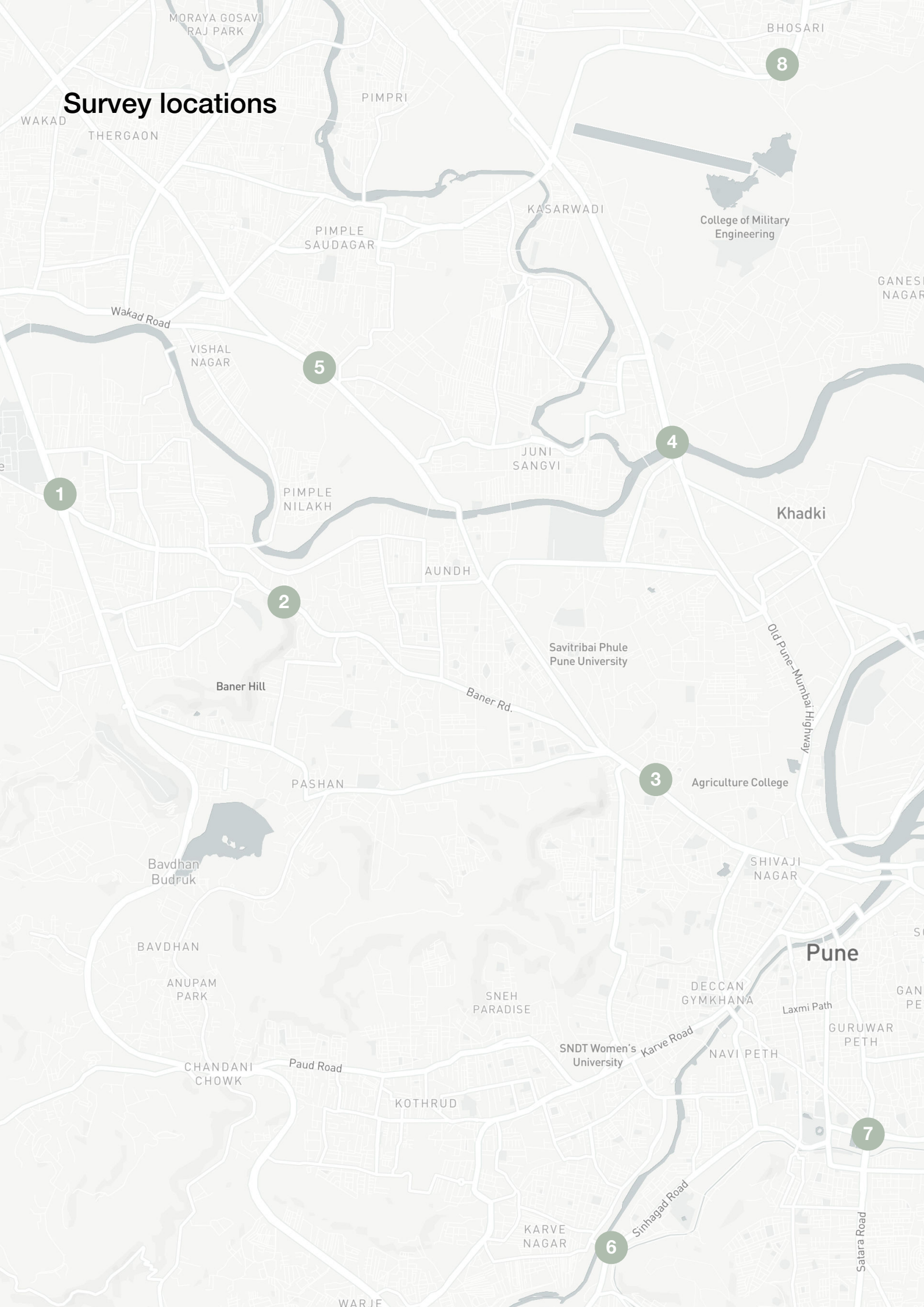
The survey was conducted on 8 roads in the city

#	Road	No. Of vehicles surveyed	Survey Location	Posted Speed Limit (kmph)
1	Pune - Bangalore Highway	479	Near Orchid hotel, Pune Bangalore highway	50
2	Baner Road	677	Near bio-diversity park, Baner	20* / 40
3	Ganeshkhind Road	807	Near Model colony, Ganeshkhind road	20* / 30
4	Old Bombay Pune Highway	476	Harries bridge, Dapodi	40
5	Aundh Ravet Road	722	Near Bharat electronics colony, opposite chest hospital, Aundh	40
6	Sinhagad Road	710	Near Rajaram bridge	40
7	Swargate Road	746	Near Swargate flyover	10* / 20
8	Pune Nashik Highway	739	Near CIRT office, Pune	40
	<b>Total</b>	<b>5356</b>		

\* - (S1/S2) the designated speed is S1, but at such low speed limits all (100%) vehicles are found in violation, hence for analysis the speed S2 is considered.

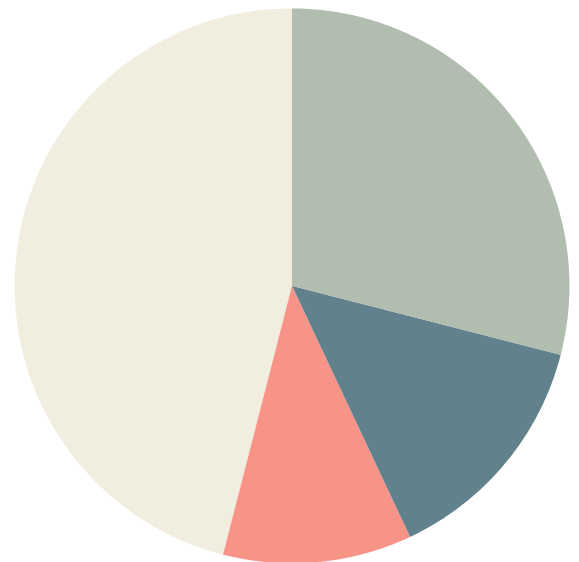


# Survey locations



### Vehicles Surveyed - type

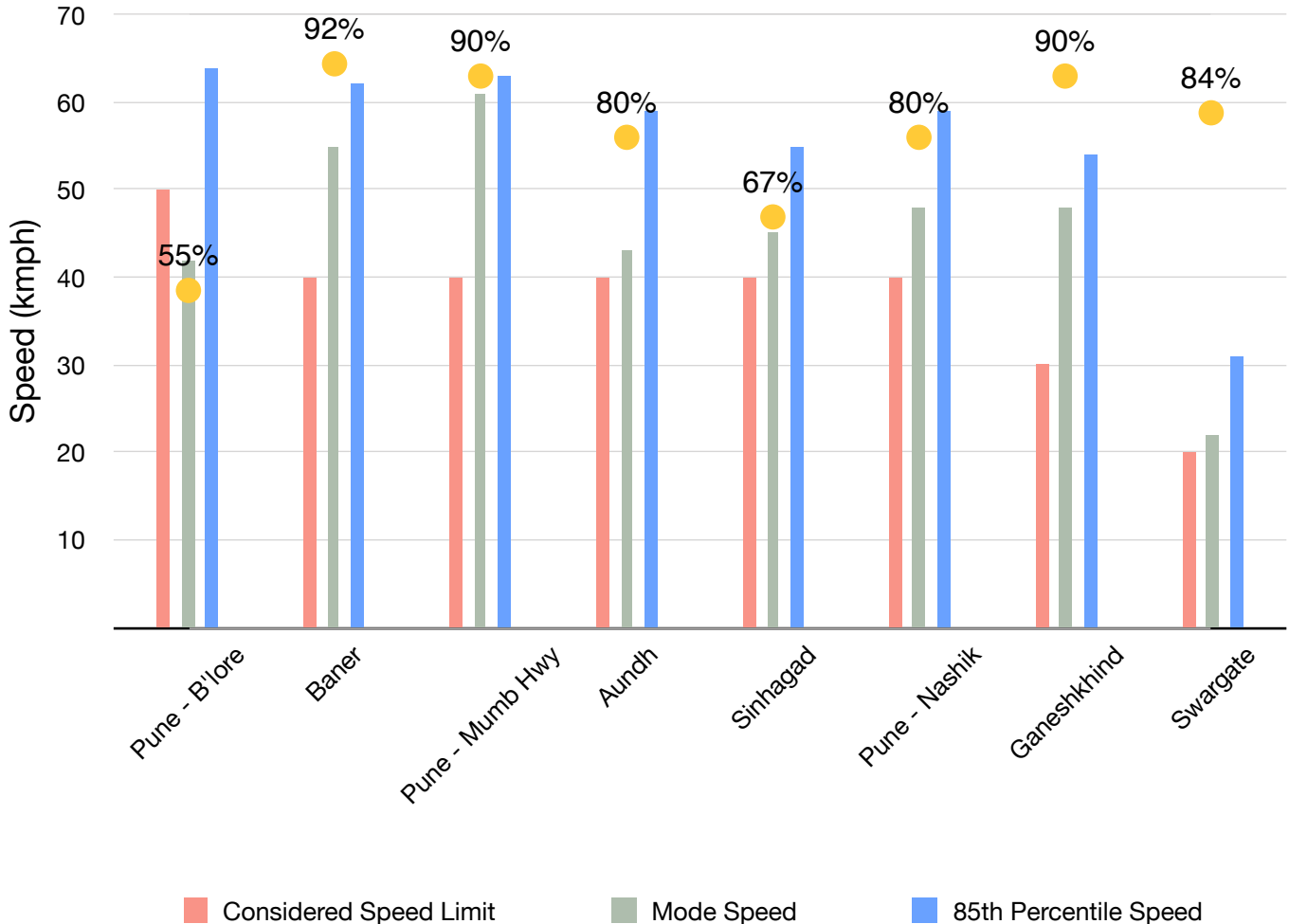
●	Four-Wheeler	29%
●	Heavy Vehicle	14%
●	Three-Wheeler	11%
●	Two-Wheeler	46%



## Results

#	Name of the street	Posted speed limit	Considered Speed Limit	Violation %	Speed Mode	85th perc speed	Excessive speed mode	Higher Speed Time
1	Pune Bangalore	50	50	55%	42	64	4w, 2w	M
2	Pune Baner	20	40	92%	55	62	4w, 2w	same
3	Pune Ganeshkhind	20	30	90%	48	54	4w, 2w	N
4	Pune Bombay	40	40	90%	61	63	4w, 2w	M
5	Pune Aundh Ravet	40	40	80%	43	59	4w	M
6	Pune Sinhgad	40	40	67%	45	55	4w	A
7	Pune Swargate	10	20	84%	22	31	4w, 2w	M
8	Pune Nashik	40	40	80%	48	59	4w, 2w	N

## Speed Limit - Mode Speed - 85th Percentile Speed Speed Violation%



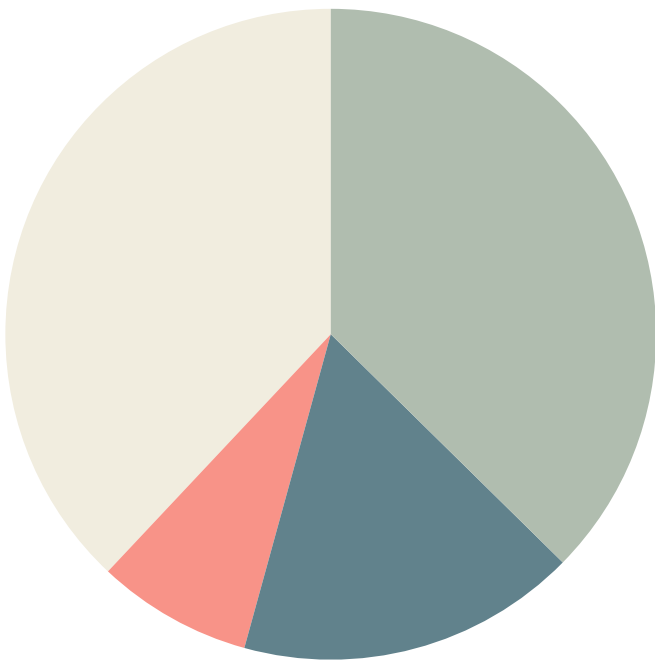
We find that for the Pune-Bangalore Hwy, which has a speed limit of 50 kmph 55% vehicles violate the speed limit, which is the best of all the roads surveyed. 3 roads had 90% or higher violations, 3 others 80% or more. This is despite the fact that slightly higher speed limits were considered for Baner road, Ganeshkhind road and Swargate road, since at the designated speed limit the violations were 100%.

We also find (except in the case of Pune Bangalore Hwy) that highest number of vehicles travel at speeds (speed mode) higher than the speed limit. The 85th percentile speed is 11-23 kmph higher than the (considered) designated speed limit.

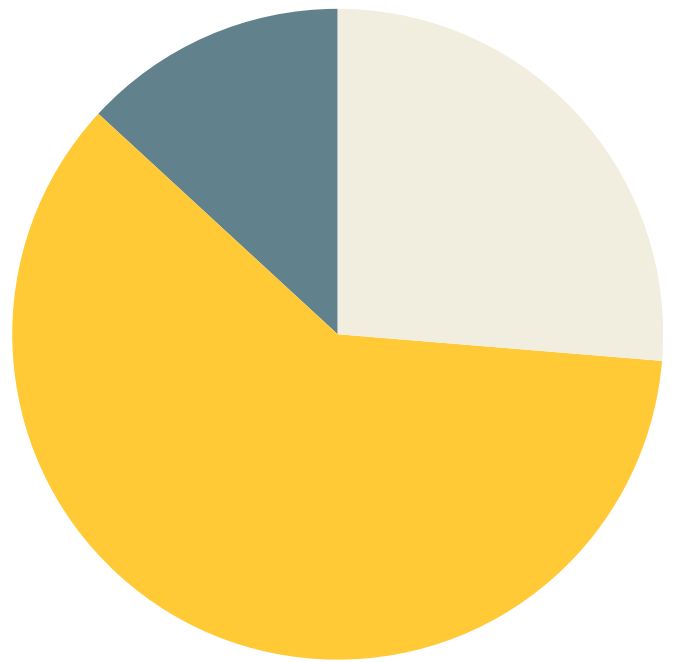
4 out of the 8 roads surveyed had higher speeds in the morning. On all roads four-wheelers and two-wheelers showed higher speeds.

## Survey Profile

479 Vehicles



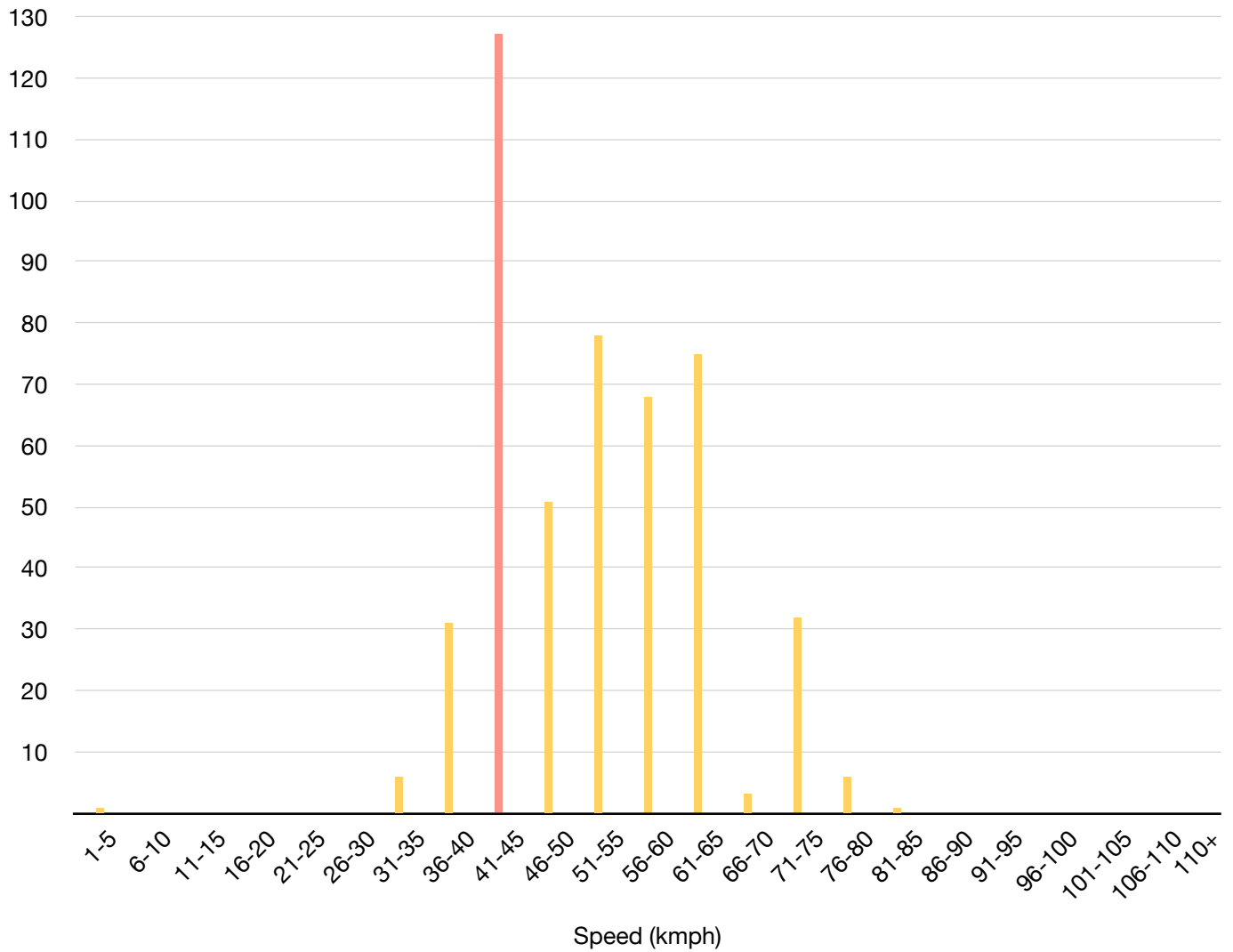
●	Four-Wheeler	179	37%
●	Heavy Vehicle	81	17%
●	Three-Wheeler	37	8%
●	Two-Wheeler	182	38%



●	Morning	126	26%
●	Afternoon	290	61%
●	Night	63	13%

# Speed Profile

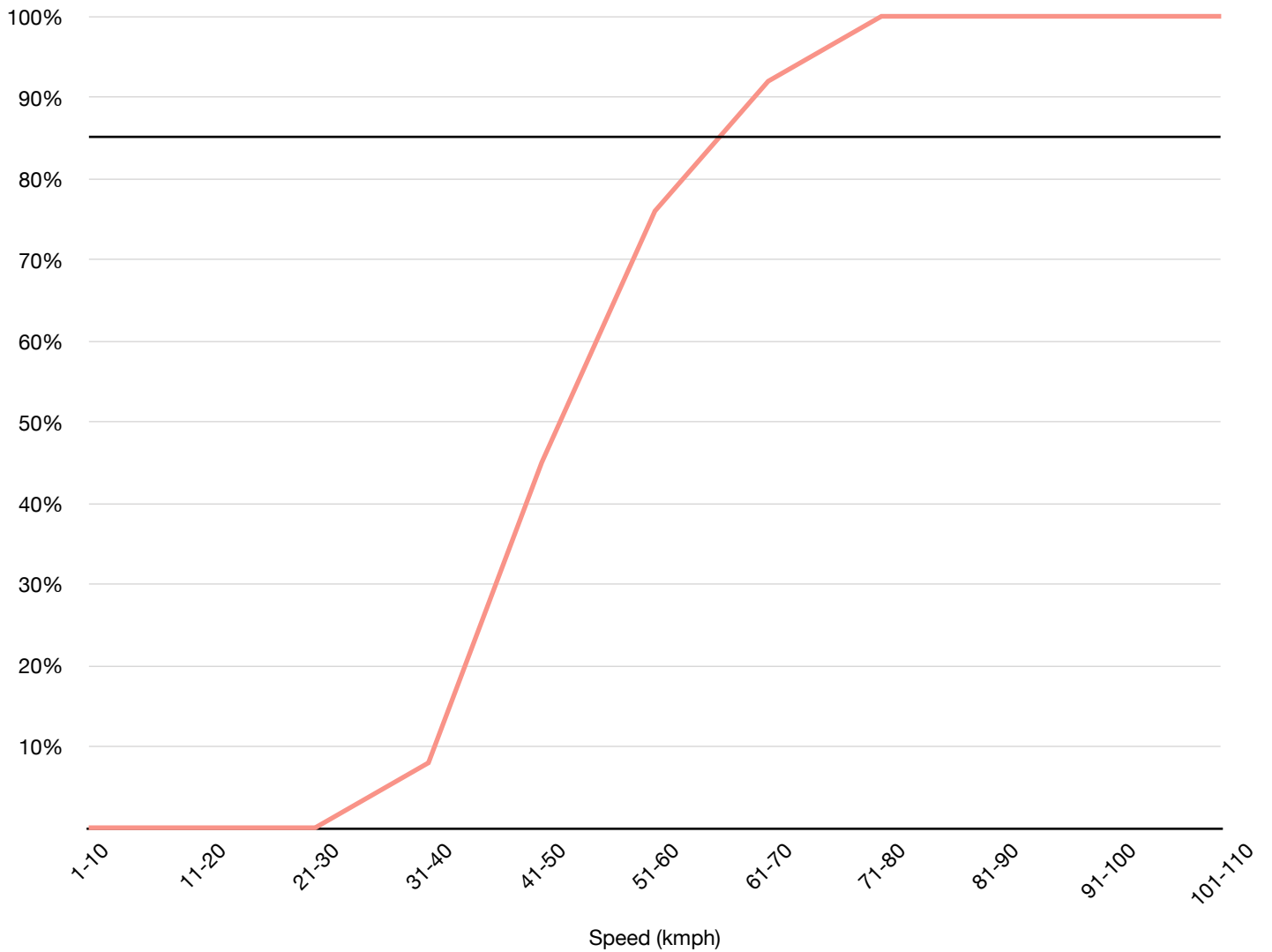
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 51-55 kmph. The highest number of vehicles were travelling at 42 kmph.

# Speed Curve

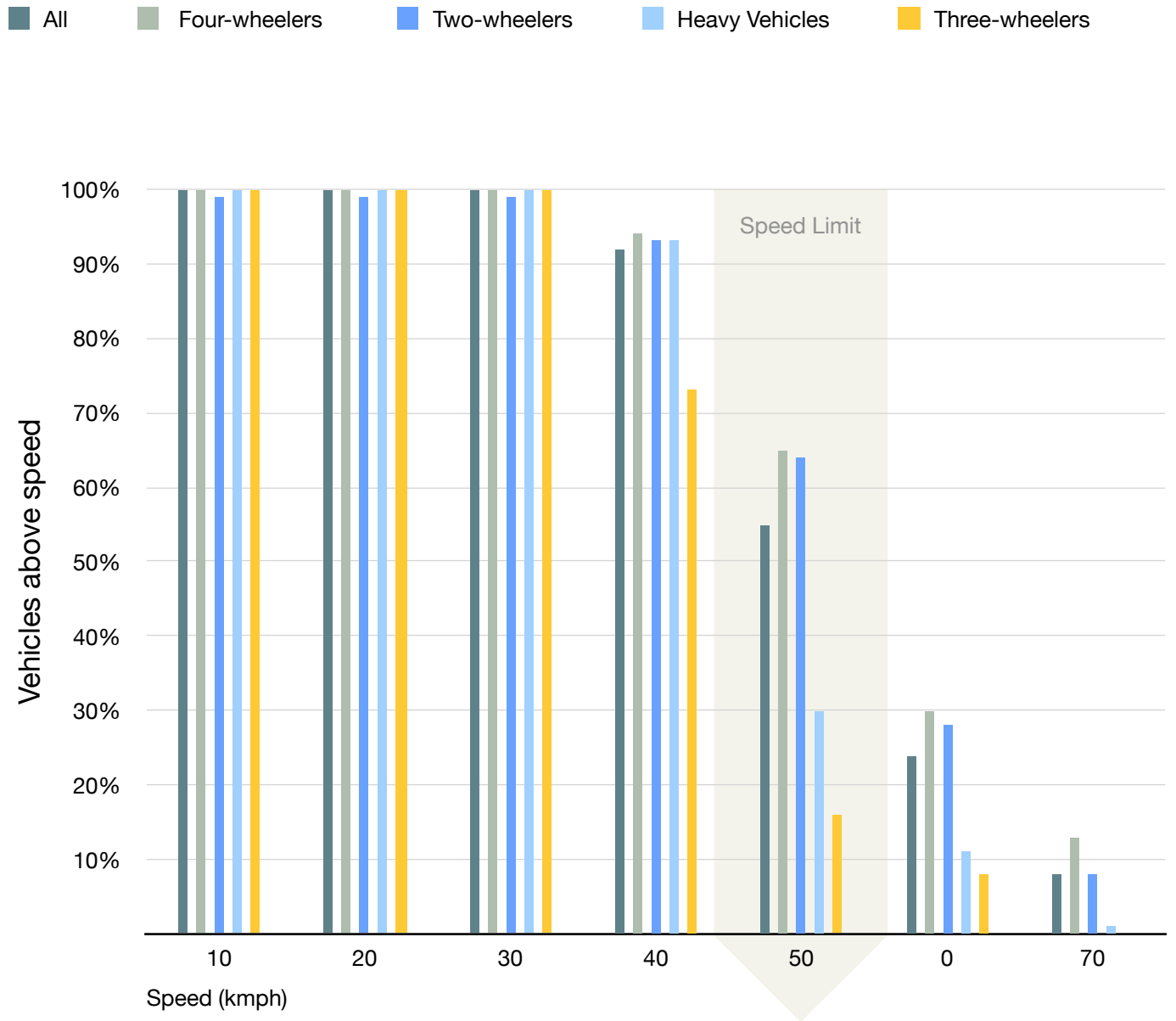
## Percent of vehicles below a speed range



The 85th percentile speed was 64 kmph. The maximum, i.e., 68% of vehicles were found to be travelling between 51 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

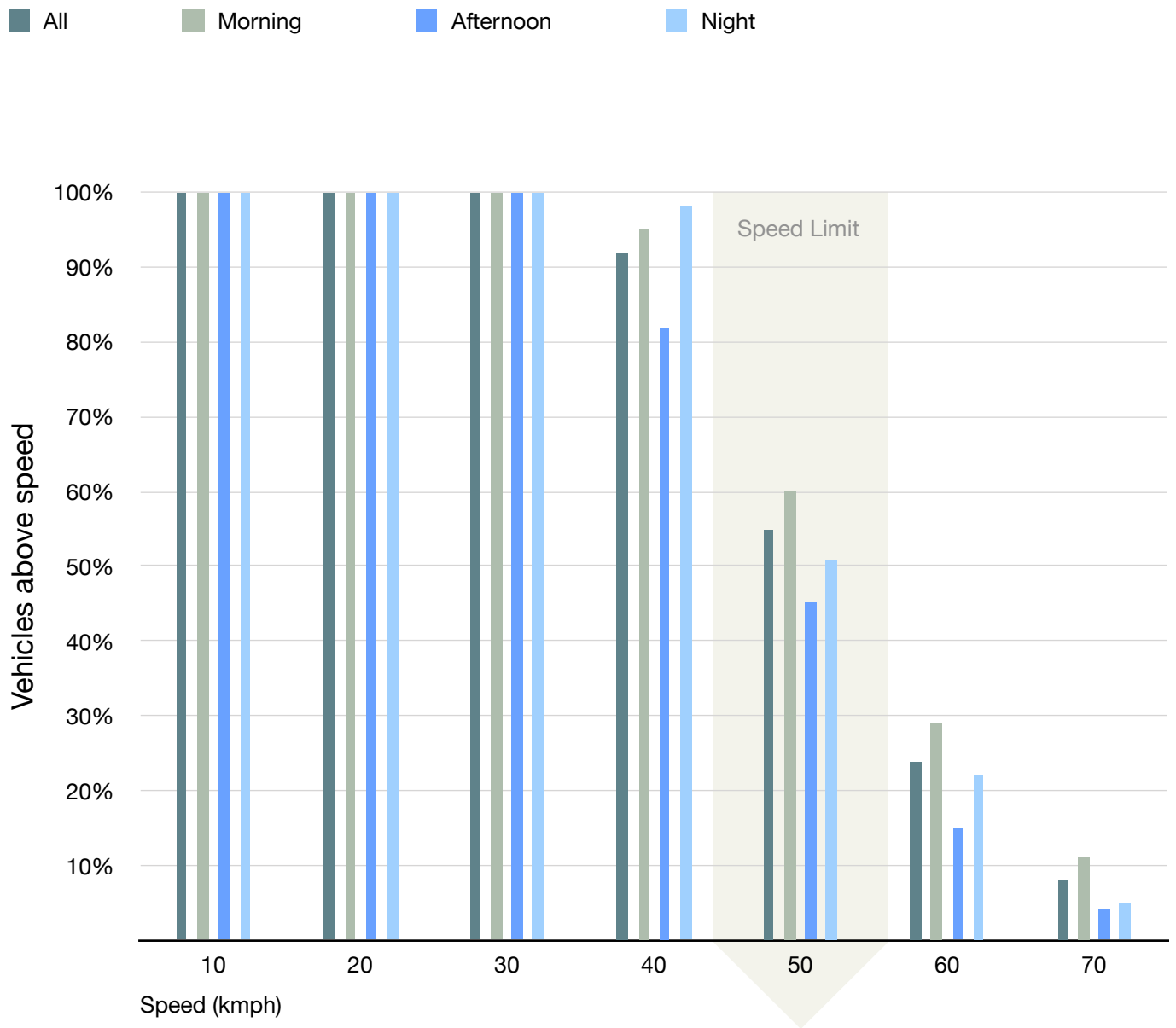


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
50 kmph	55%	65%	64%	30%	16%

We find that 55% vehicles exceed the designated speed limit. Four-wheeler (65%) and Two-wheeler (64%) violate the speed limit most.

# Speeding

## By time of day



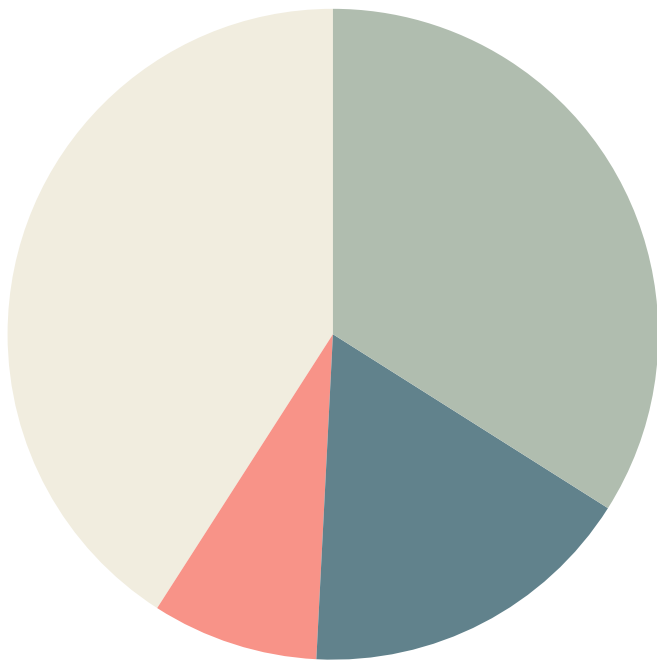
Speed limit	All	Morning	Afternoon	Night
50 kmph	55%	60%	45%	51%

We find that surprisingly, speed violation occurs most in the morning which is 60%.



Survey Profile

677 Vehicles



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●	Four-Wheeler	<b>230</b>	<b>34%</b>
●	Heavy Vehicle	<b>114</b>	<b>17%</b>
●	Three-Wheeler	<b>56</b>	<b>8%</b>
●	Two-Wheeler	<b>277</b>	<b>41%</b>

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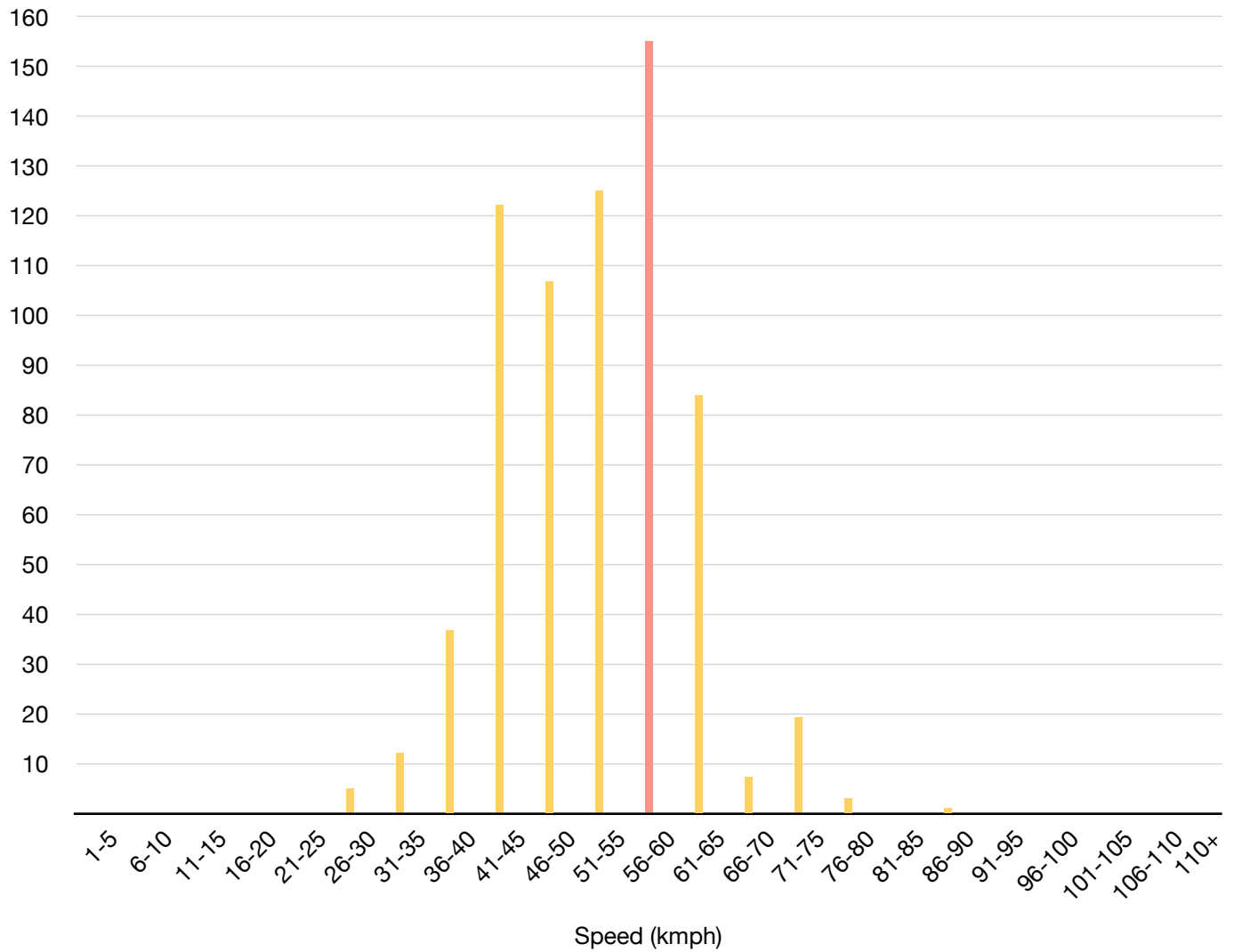
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●	Morning	<b>249</b>	<b>37%</b>
●	Afternoon	<b>239</b>	<b>35%</b>
●	Night	<b>189</b>	<b>28%</b>

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# Speed Profile

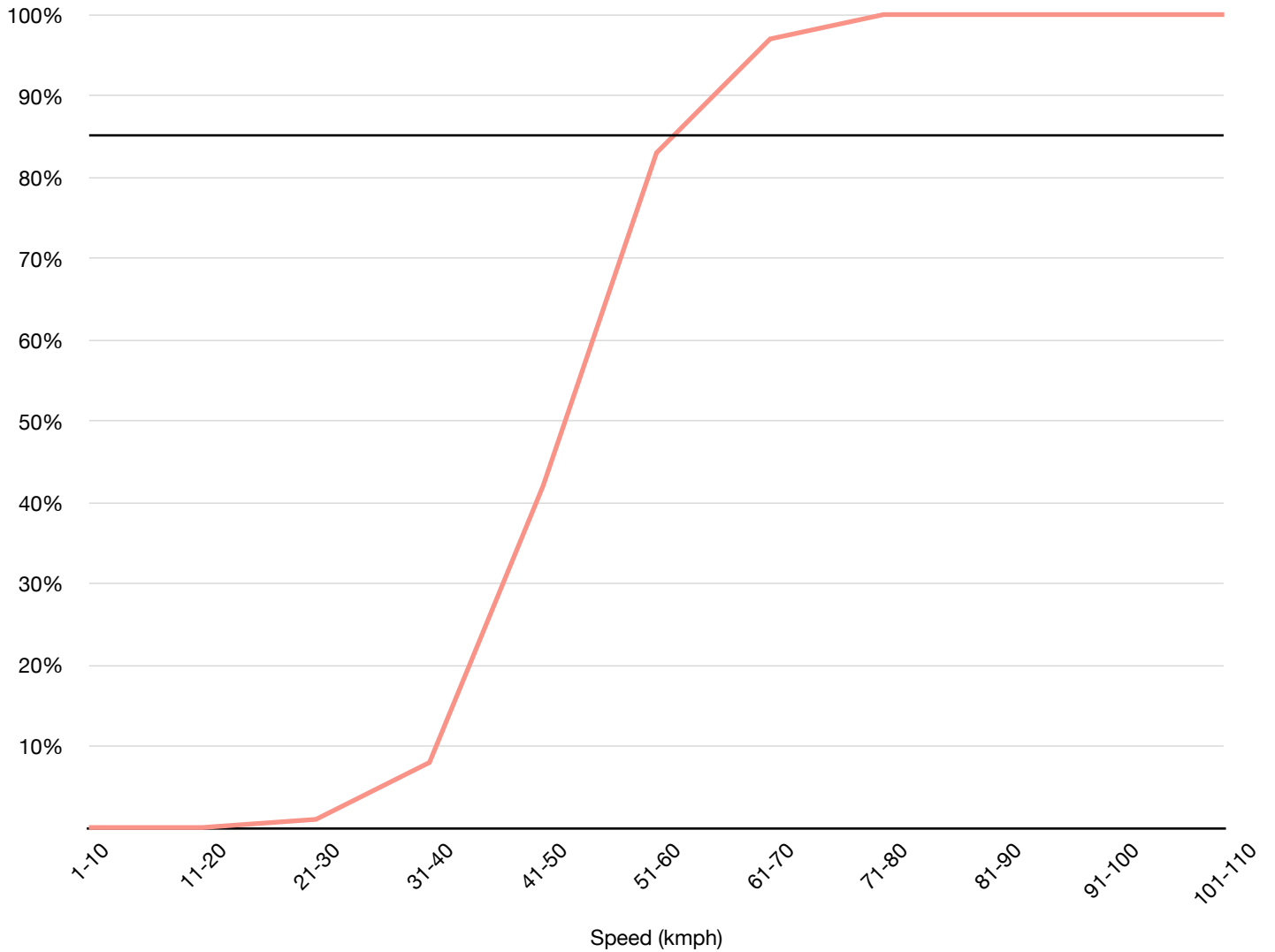
# Number of vehicles



The maximum number of vehicles were travelling between 56-60 kmph, followed by 51-55 kmph. The highest number of vehicles were travelling at 60 kmph.

# Speed Curve

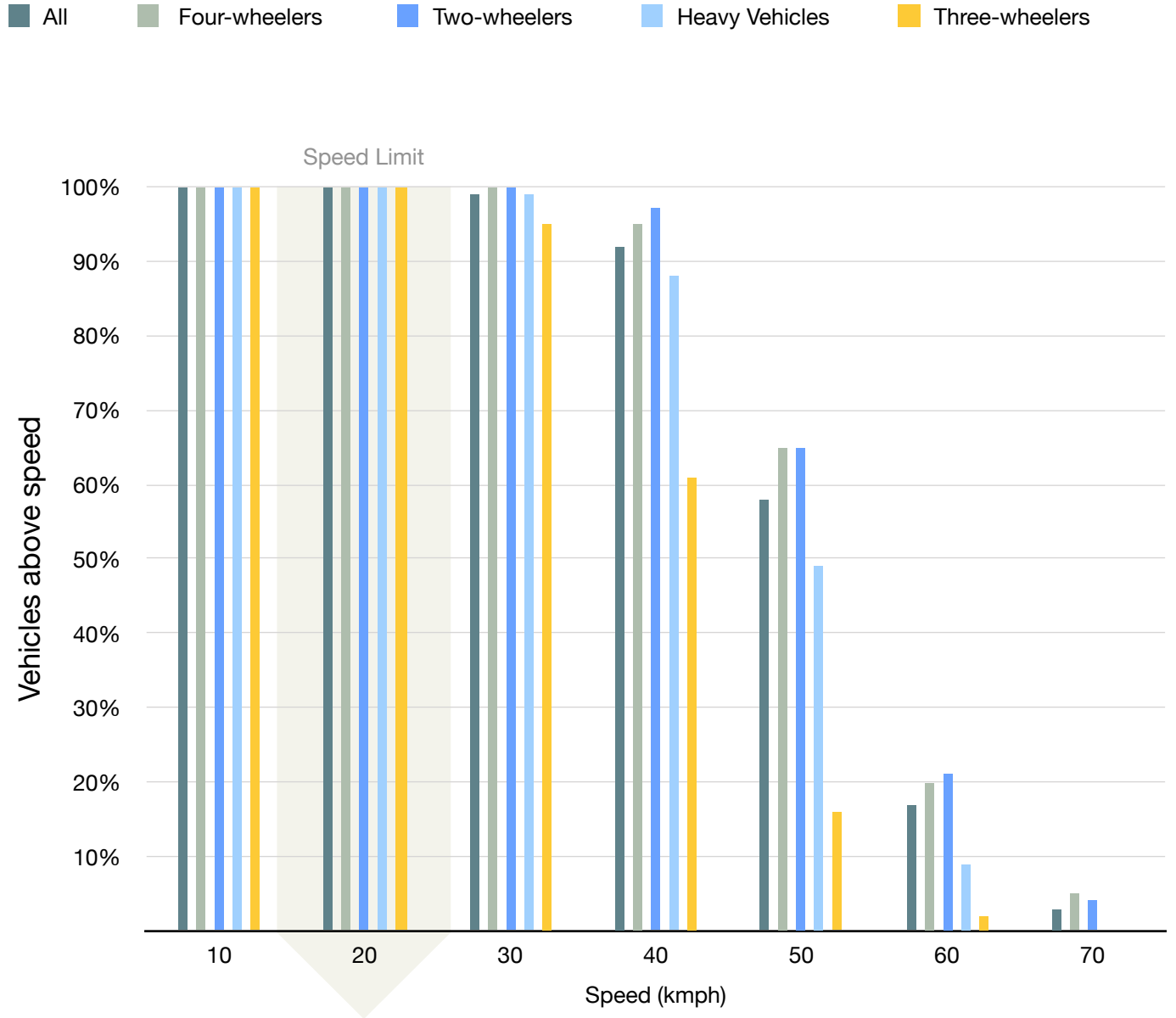
# Percent of vehicles below a speed range



The 85th percentile speed was 62 kmph. The maximum, i.e., 75% of vehicles were found to be travelling between 53 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

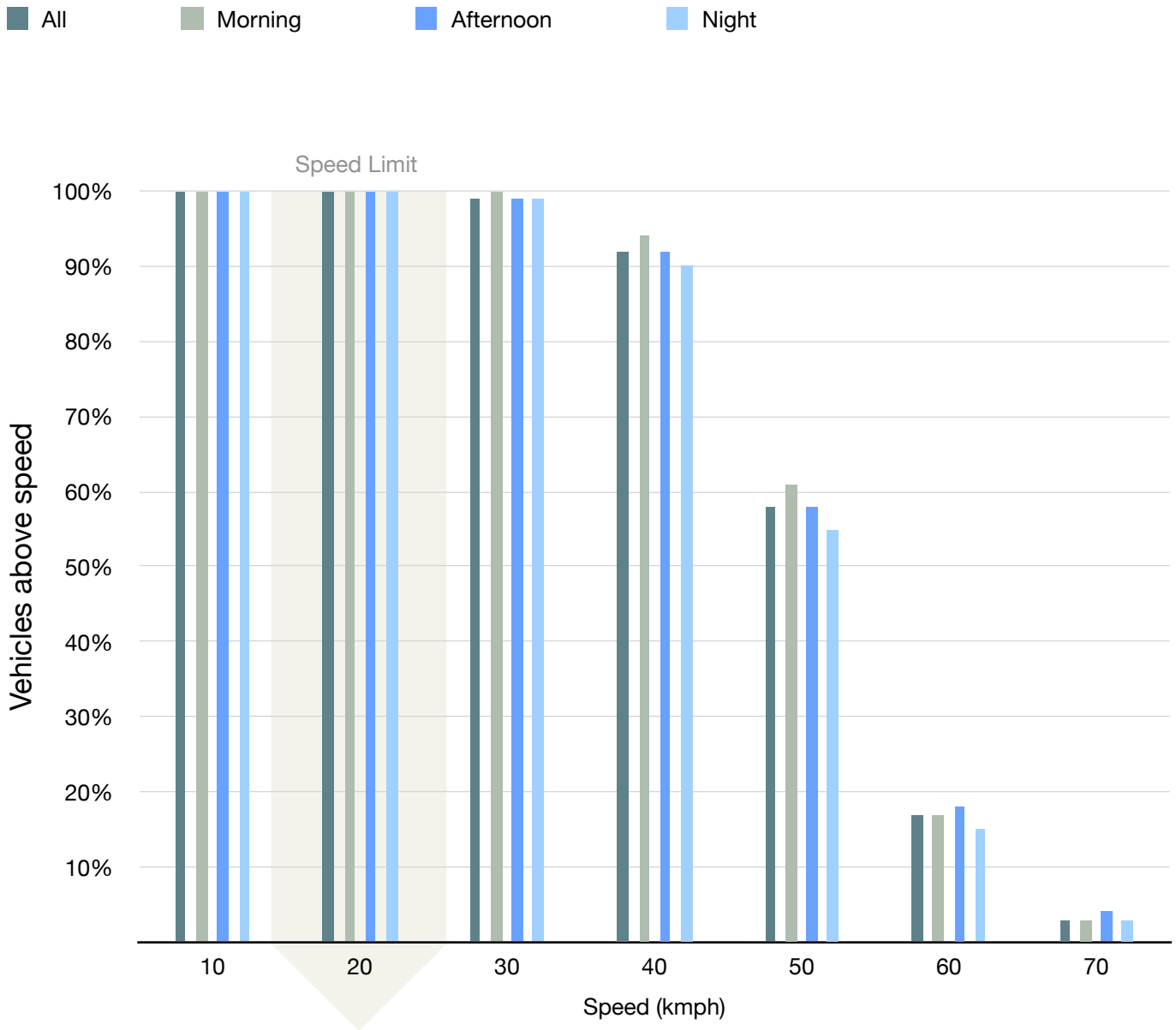


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
20 kmph	100%	100%	100%	100%	100%

We find that 100% vehicles exceed the designated speed limit.

# Speeding

## By time of day

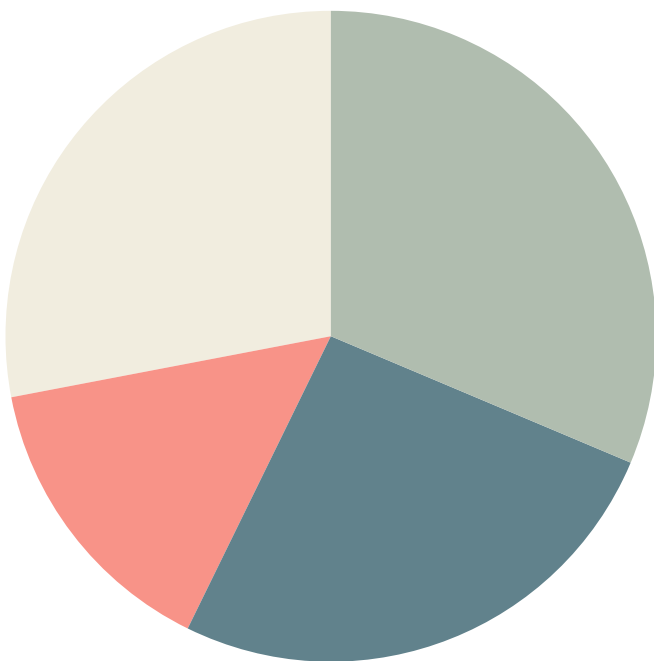


Speed limit	All	Morning	Afternoon	Night
20 kmph	100%	100%	100%	100%

We find that in all timing, speed limit violation occurs and 3% drive more than 70 kmph.

Survey Profile

807 Vehicles



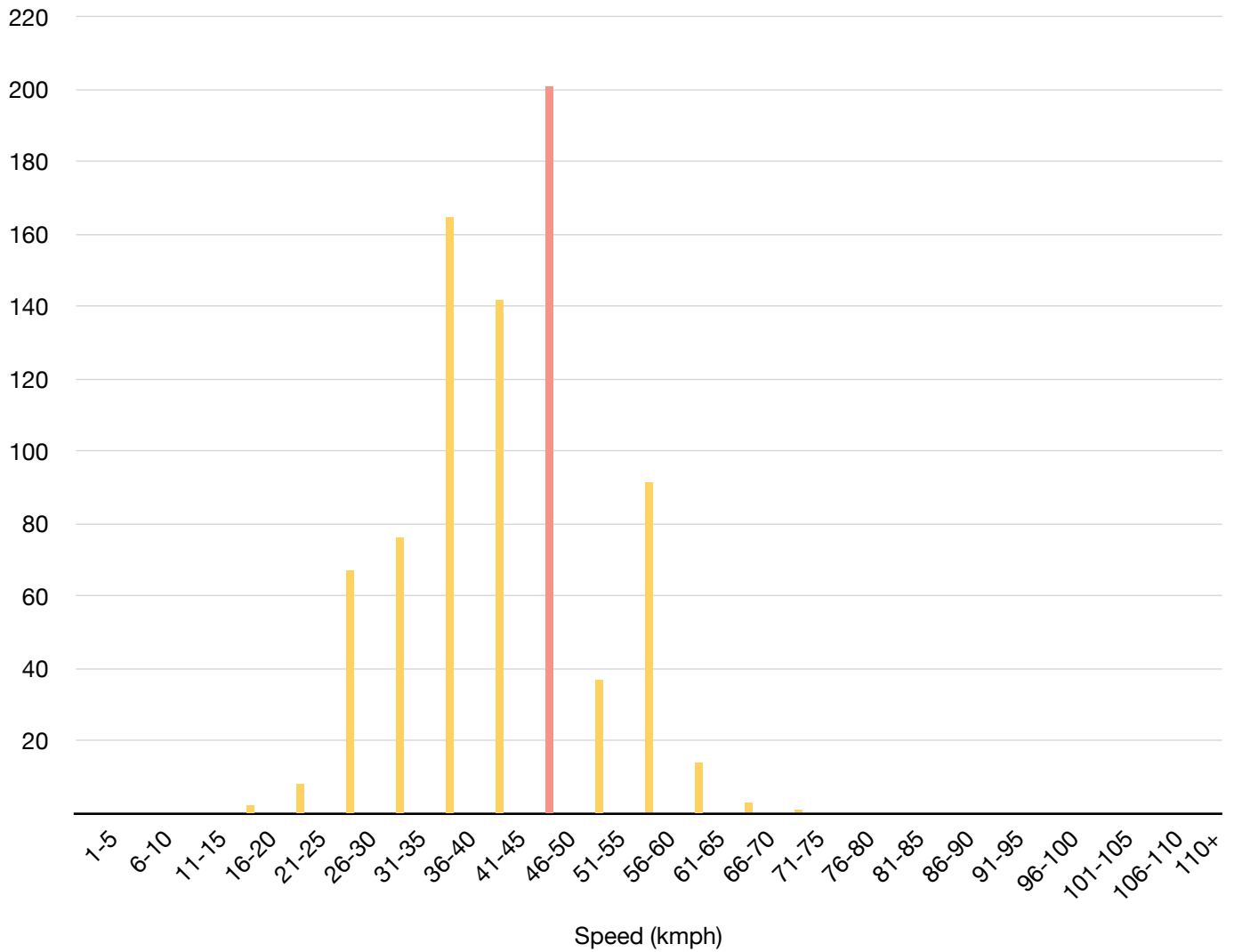
<span style="color: #808080;">●</span> Four-Wheeler	<b>253</b>	<b>31%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>209</b>	<b>26%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>119</b>	<b>15%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>226</b>	<b>28%</b>



<span style="color: #D2B48C;">●</span> Morning	<b>251</b>	<b>31%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>304</b>	<b>38%</b>
<span style="color: #4682B4;">●</span> Night	<b>252</b>	<b>31%</b>

# Speed Profile

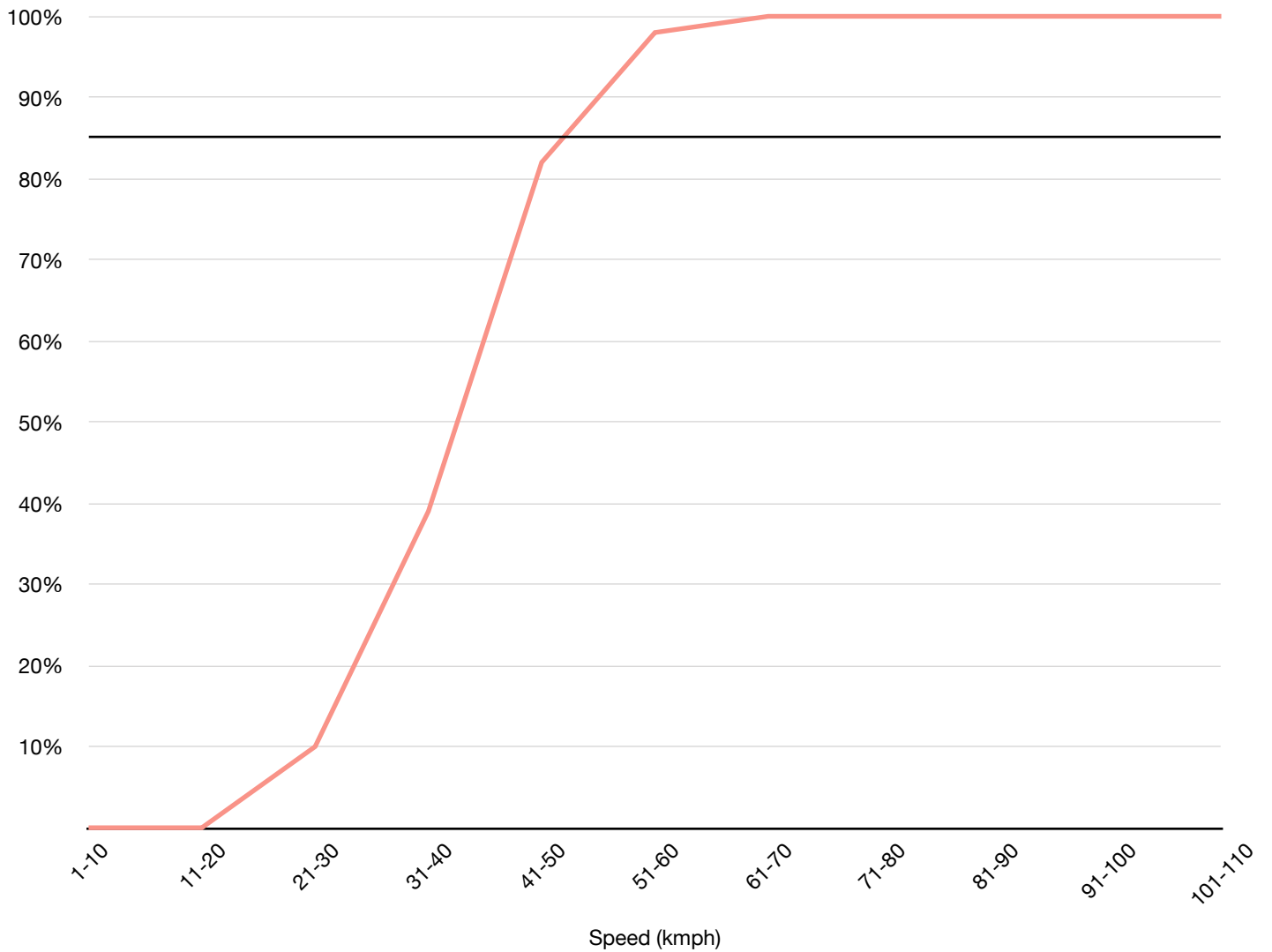
# Number of vehicles



The maximum number of vehicles were travelling between 46-50 kmph, followed by 36-40 kmph. We also see a significant number of vehicles traveling between 56-60 kmph. The highest number of vehicles were travelling at 48 kmph.

# Speed Curve

# Percent of vehicles below a speed range

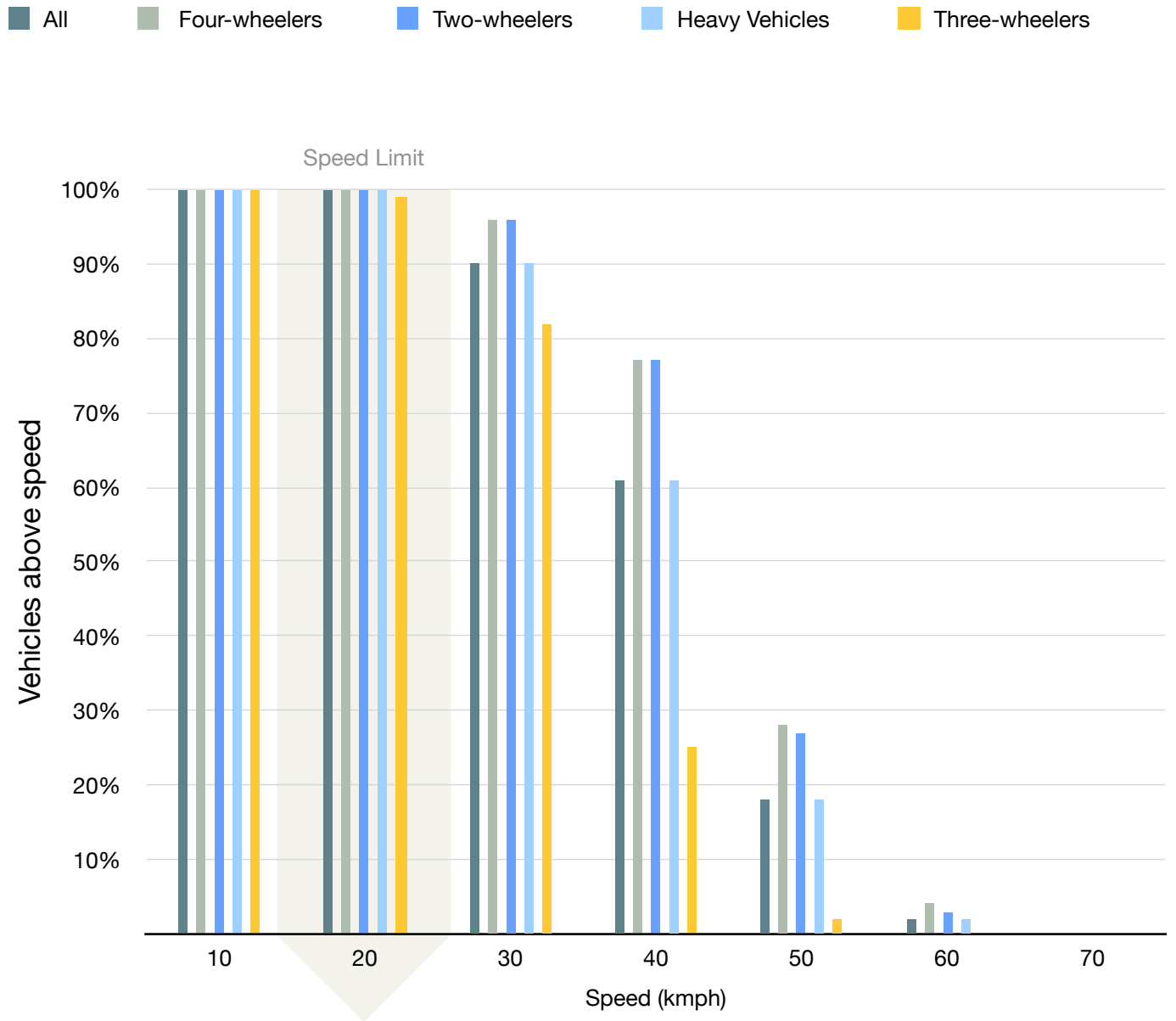


The 85th percentile speed was 54 kmph. The maximum, i.e., 74% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.



# Speeding

## By type of vehicle

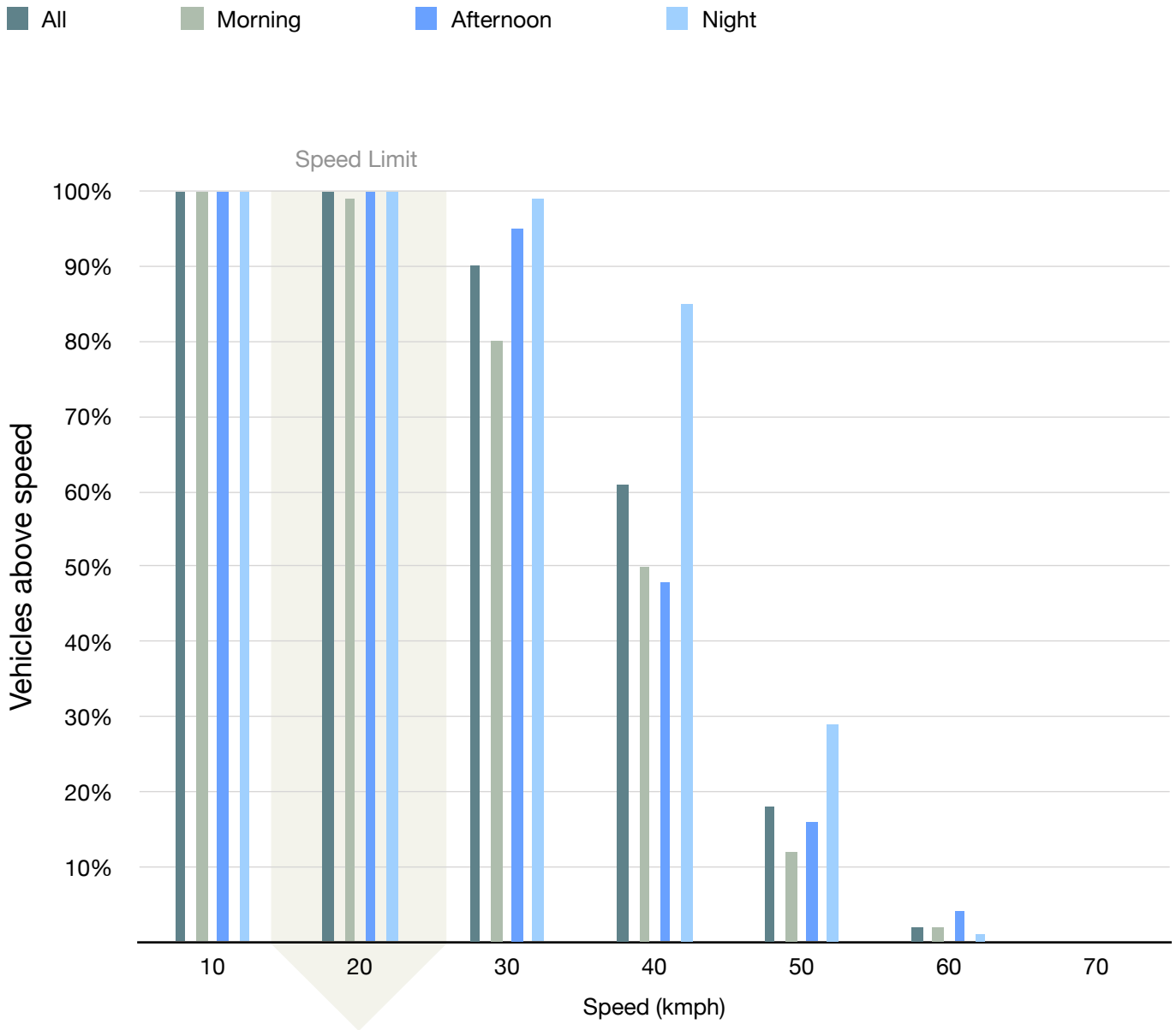


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
20 kmph	100%	100%	100%	100%	99%

We find that 100% vehicles exceed the designated speed limit.

# Speeding

## By time of day

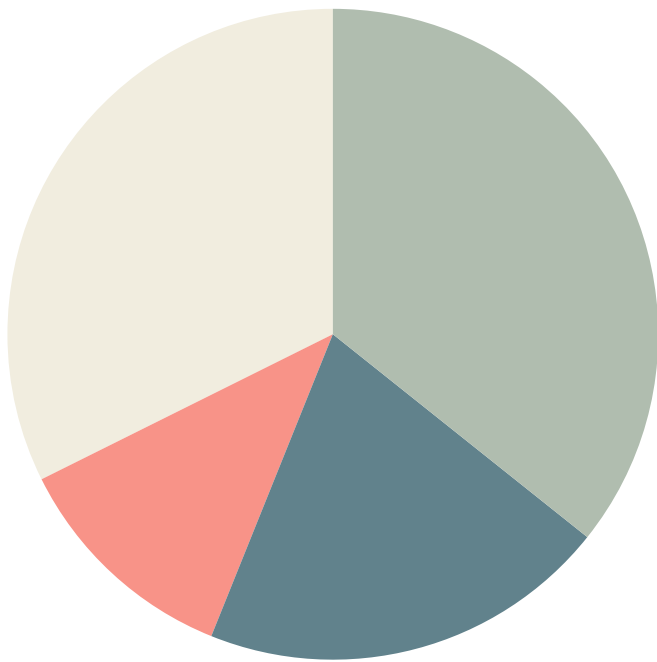


Speed limit	All	Morning	Afternoon	Night
20 kmph	100%	99%	100%	100%

We find that for higher speeds there are more vehicles traveling faster at night.

Survey Profile

476 Vehicles

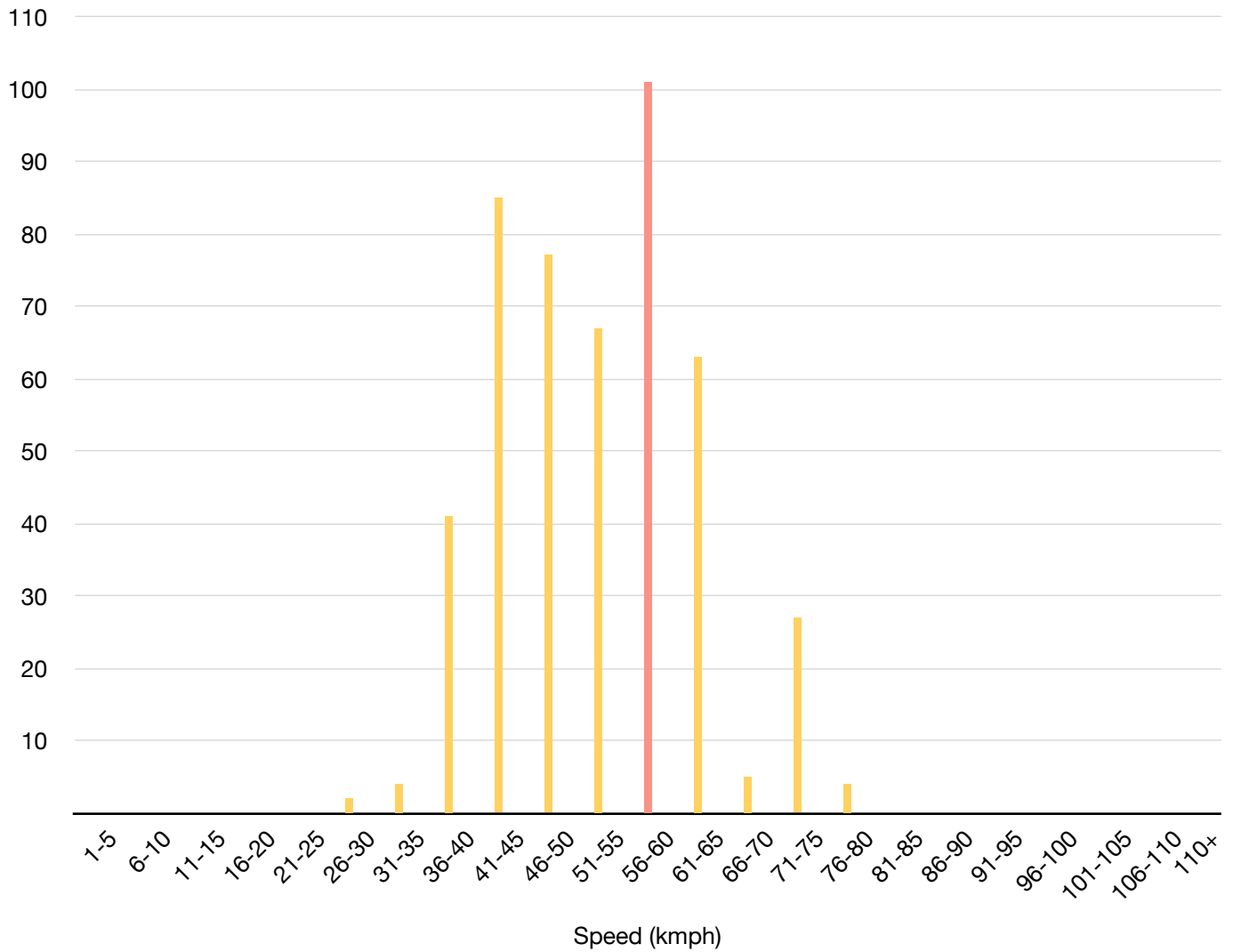


<span style="color: #808080;">●</span>	Four-Wheeler	<b>170</b>	<b>36%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>97</b>	<b>20%</b>
<span style="color: #F08080;">●</span>	Three-Wheeler	<b>55</b>	<b>12%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>154</b>	<b>32%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>45</b>	<b>9%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>237</b>	<b>50%</b>
<span style="color: #4682B4;">●</span>	Night	<b>194</b>	<b>41%</b>

# Speed Profile

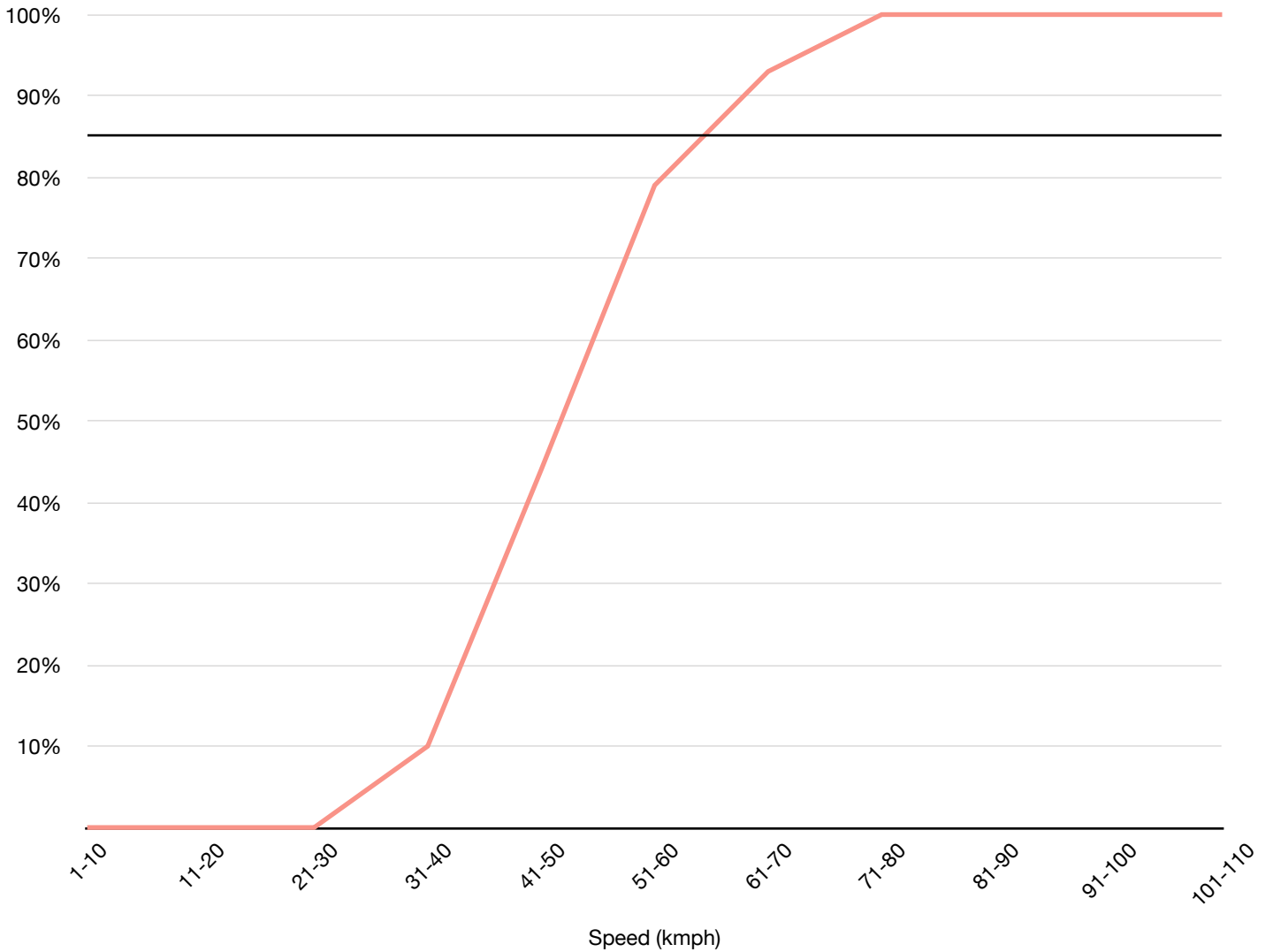
# Number of vehicles



The maximum number of vehicles were travelling between 56-60 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 61 kmph.

# Speed Curve

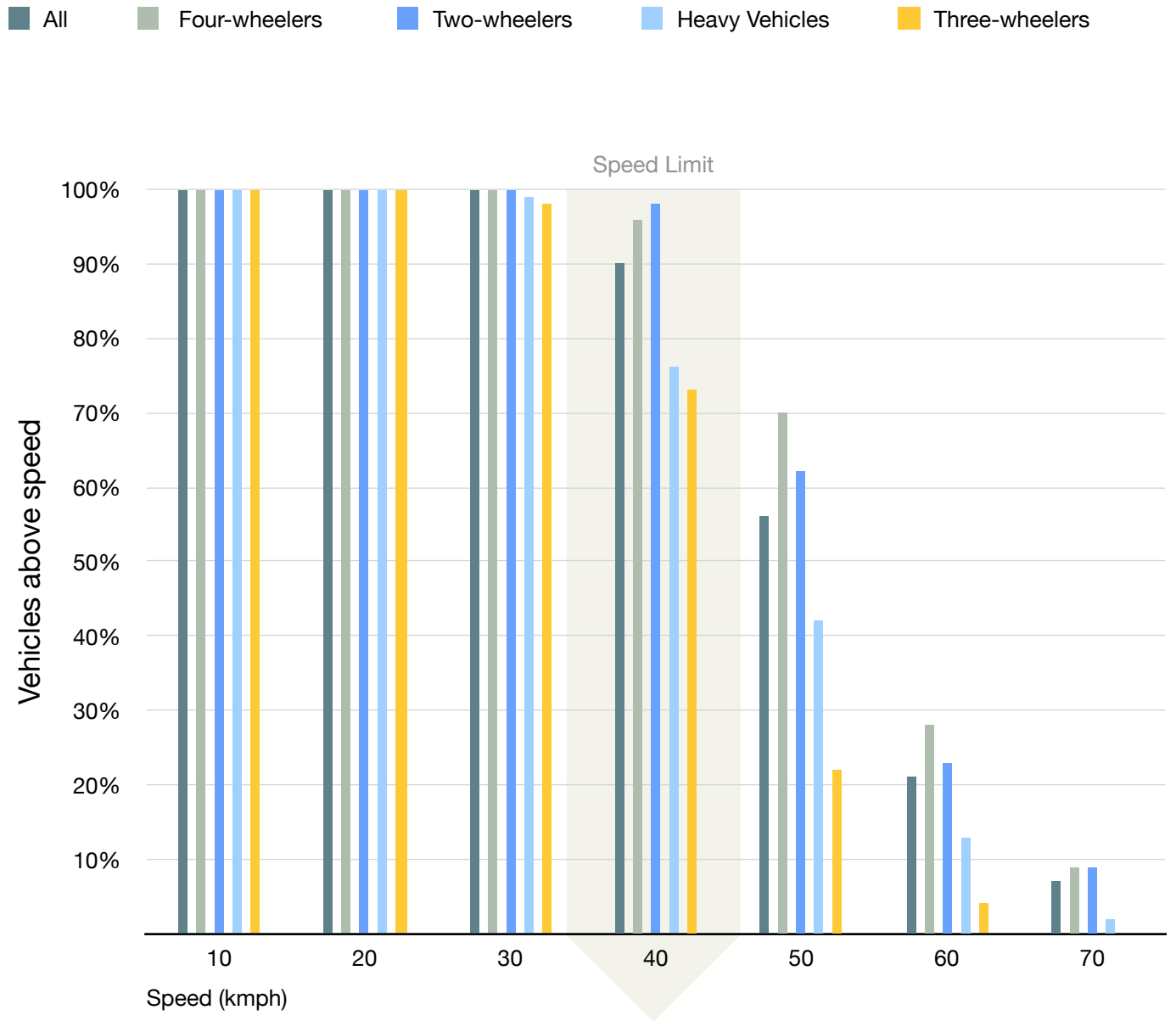
# Percent of vehicles below a speed range



The 85th percentile speed was 63 kmph. The maximum, i.e., 70% of vehicles were found to be travelling between 55 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

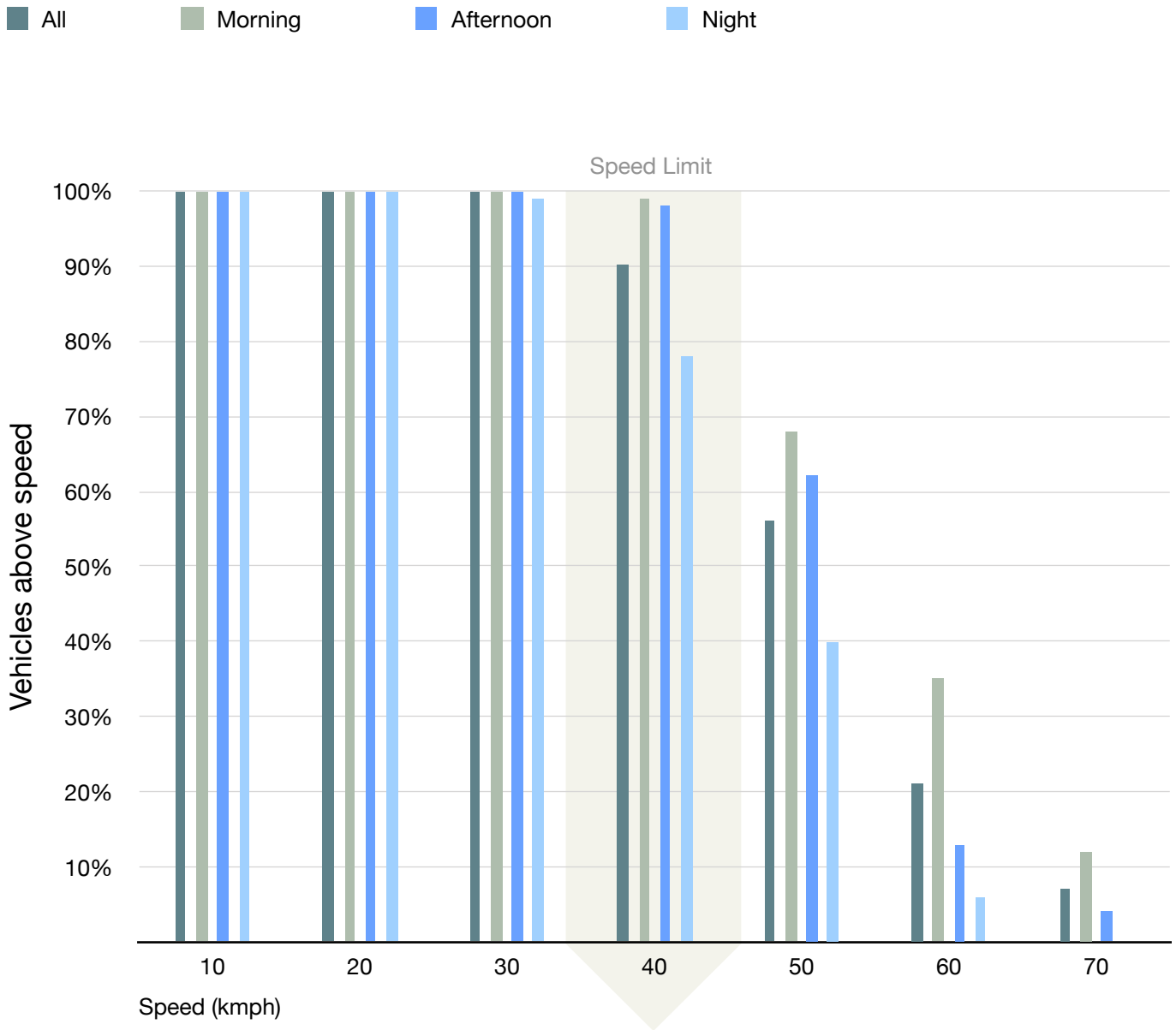


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	90%	96%	98%	76%	73%

We find that 90% vehicles exceed the designated speed limit. Four-wheeler (96%) and Two-wheeler (98%) violate the speed limit most.

# Speeding

## By time of day

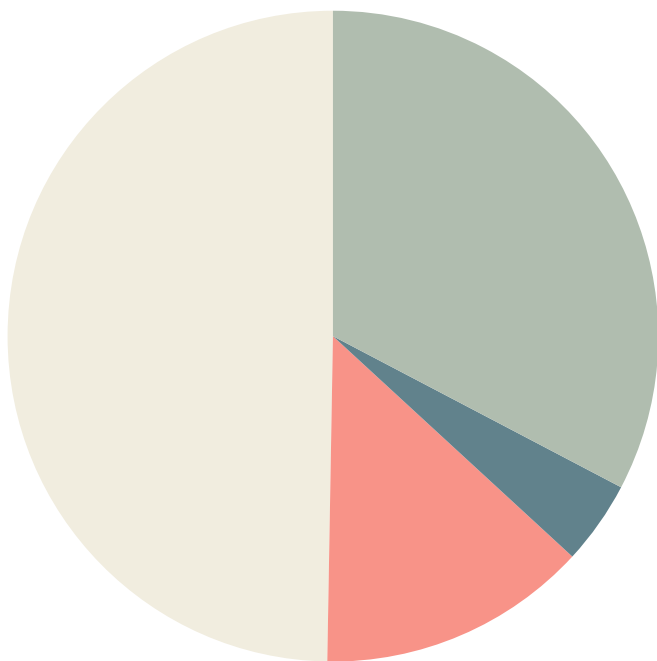


Speed limit	All	Morning	Afternoon	Night
40 kmph	90%	99%	98%	78%





We find that surprisingly, speed violation occurs most in the morning which is 99%.

Survey Profile

722 Vehicles



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	Four-Wheeler	<b>236</b>	<b>33%</b>
	Heavy Vehicle	<b>30</b>	<b>4%</b>
	Three-Wheeler	<b>97</b>	<b>13%</b>
	Two-Wheeler	<b>359</b>	<b>50%</b>

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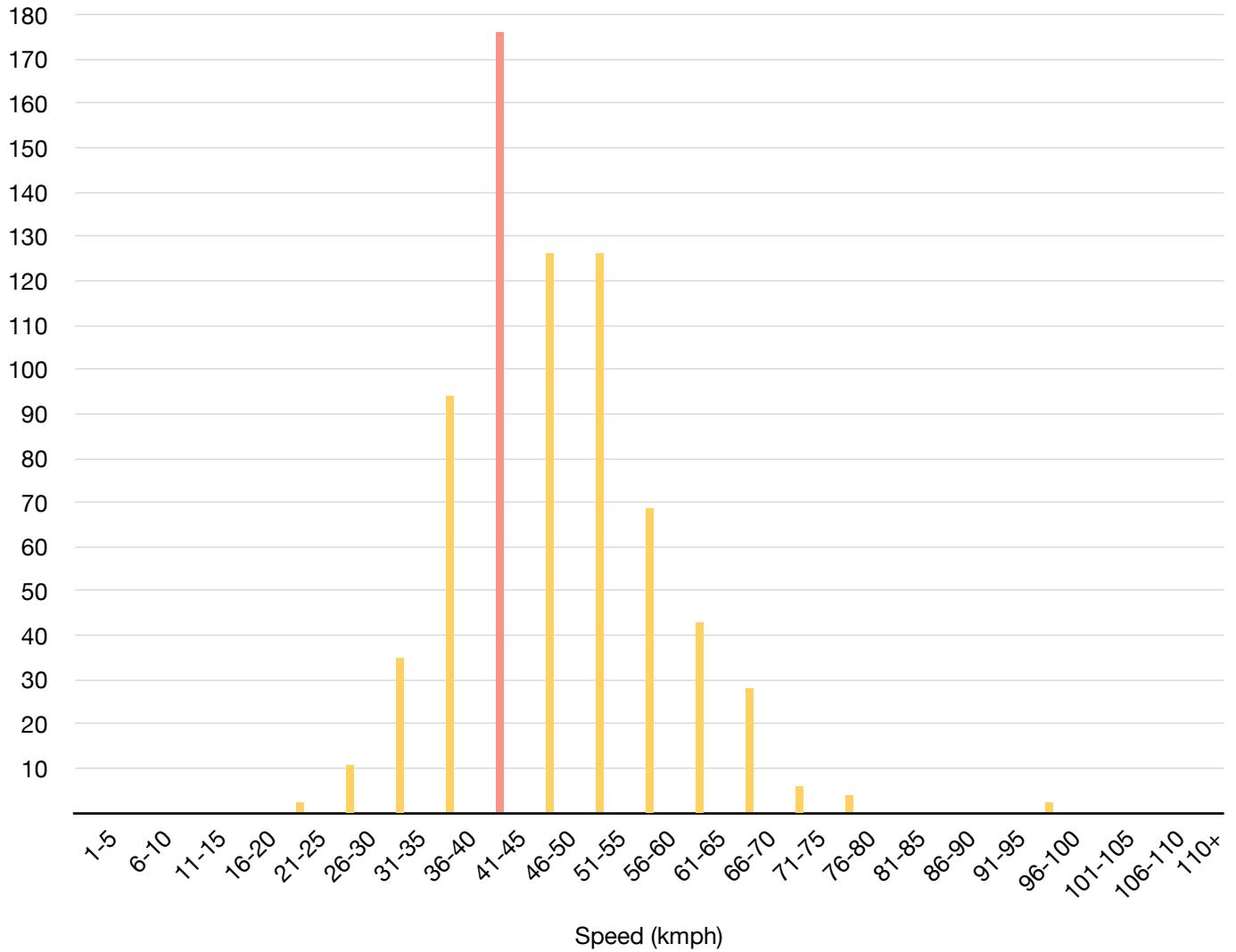
	Morning	<b>240</b>	<b>33%</b>
	Afternoon	<b>240</b>	<b>33%</b>
	Night	<b>242</b>	<b>34%</b>

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# Speed Profile

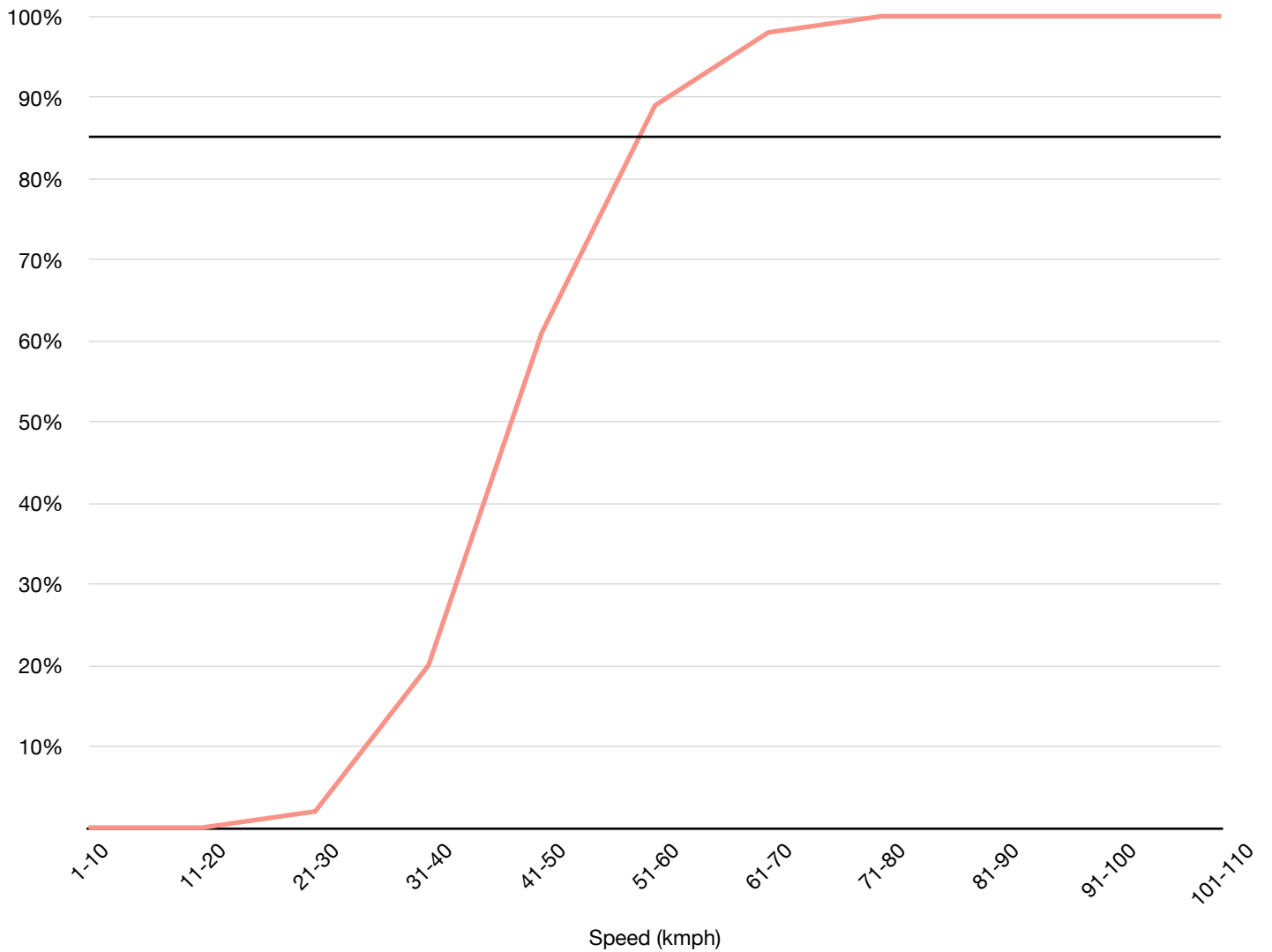
# Number of vehicles



The maximum number of vehicles were travelling between 41-45kmph, followed by 51-55 kmph. The highest number of vehicles were travelling at 43 kmph.

# Speed Curve

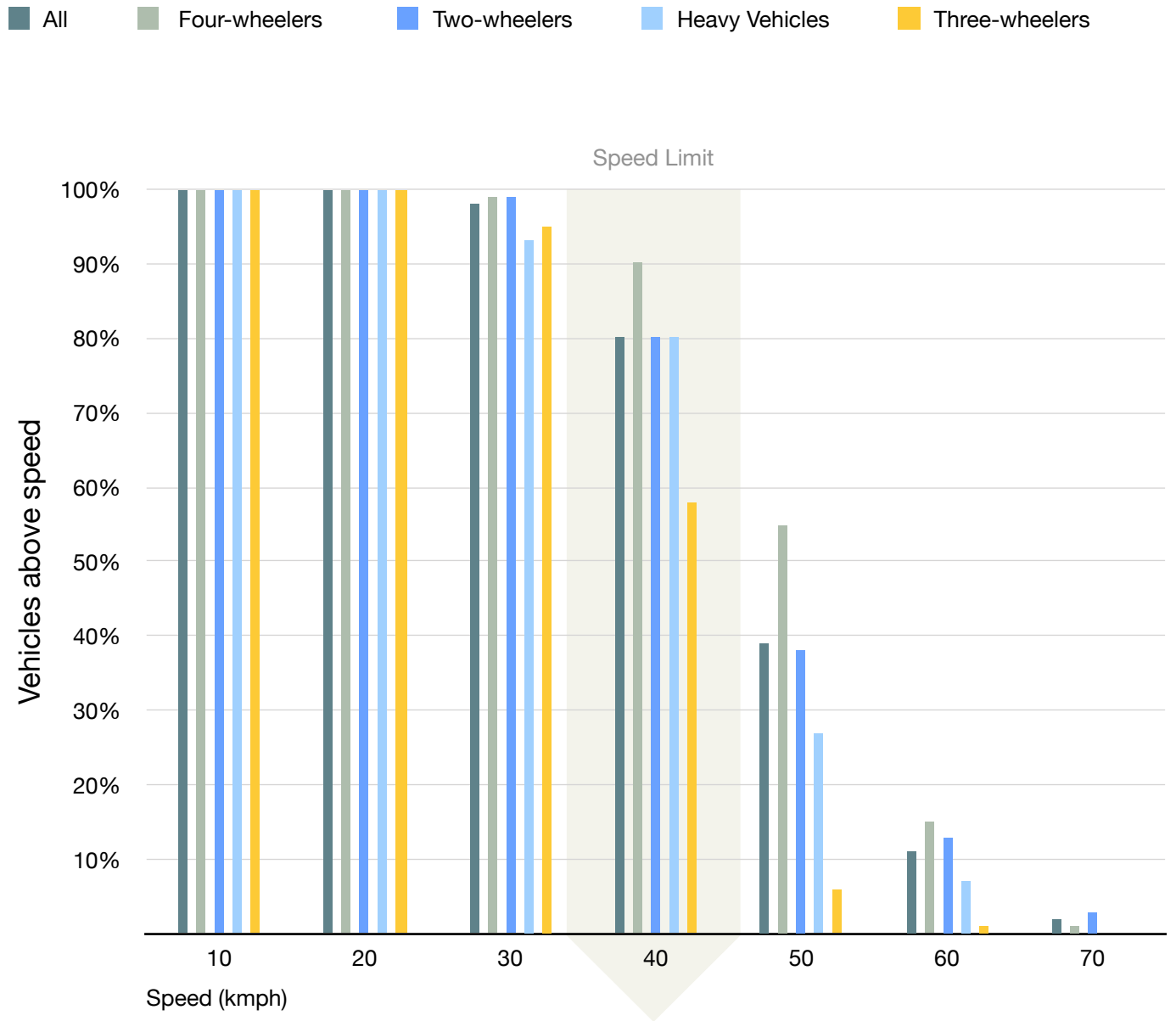
## Percent of vehicles below a speed range



The 85th percentile speed was 59 kmph. The maximum, i.e., 73% of vehicles were found to be travelling between 48 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

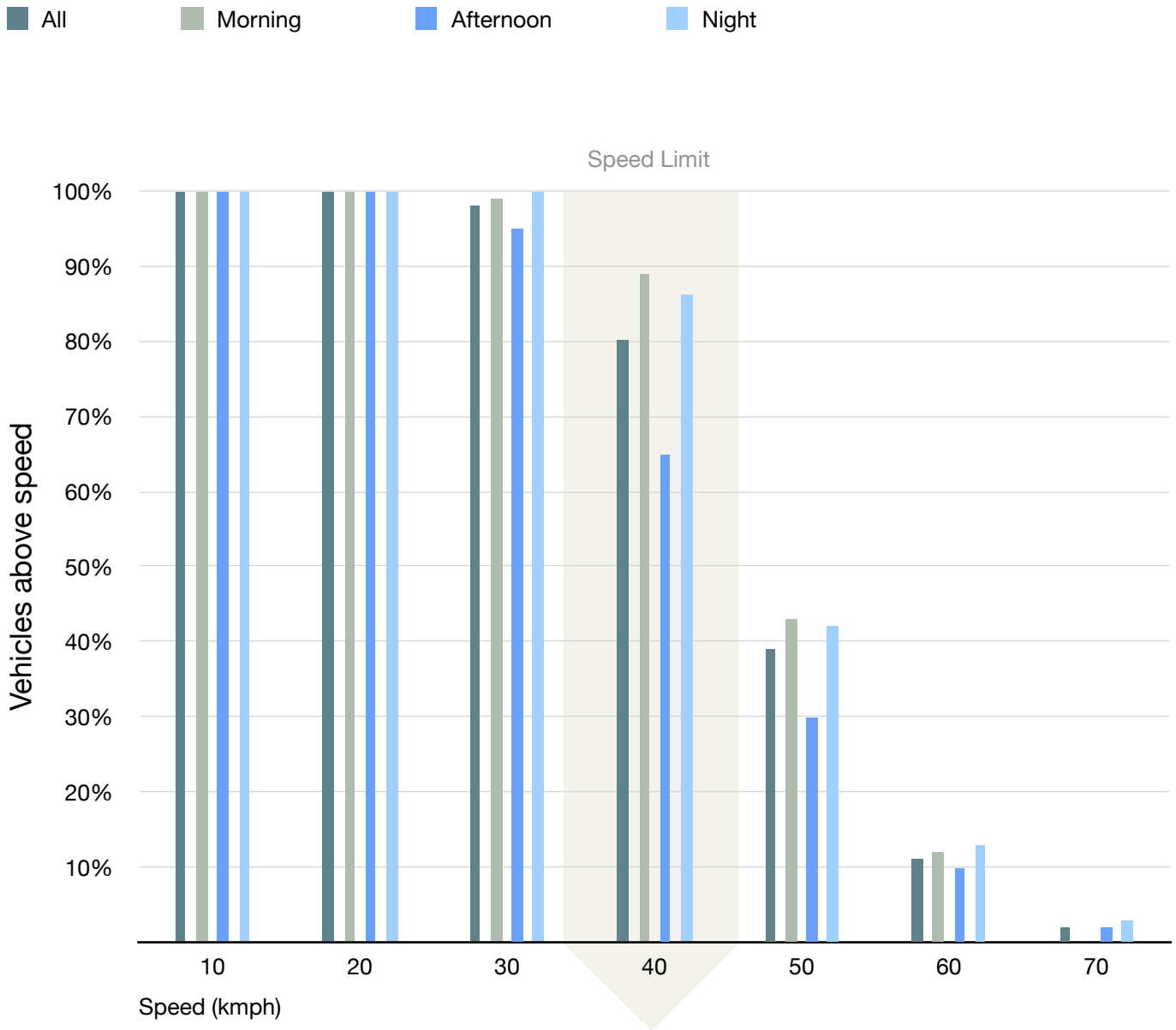


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	80%	90%	80%	80%	58%

We find that 80% vehicles exceed the designated speed limit. Four-wheeler (90%) violate the speed limit most.

# Speeding

## By time of day

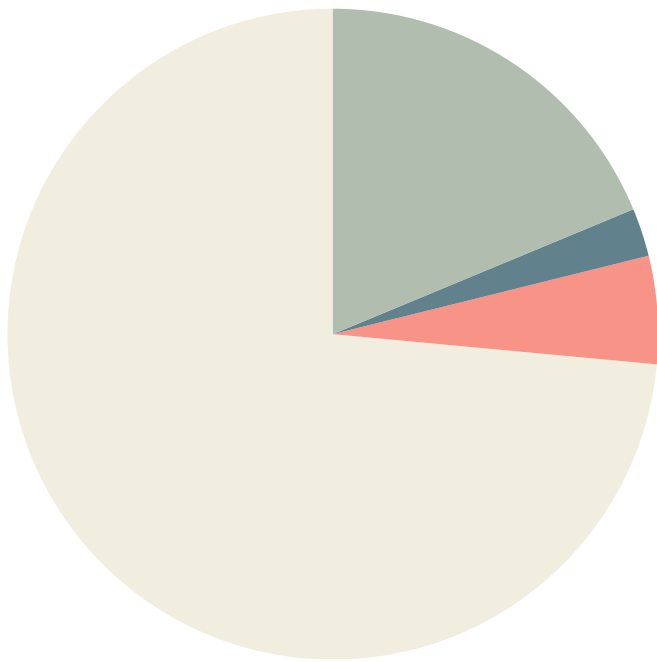


Speed limit	All	Morning	Afternoon	Night
40 kmph	80%	89%	65%	86%

We find that surprisingly, speed violation occurs most in the morning which is 89%.

Survey Profile

710 Vehicles

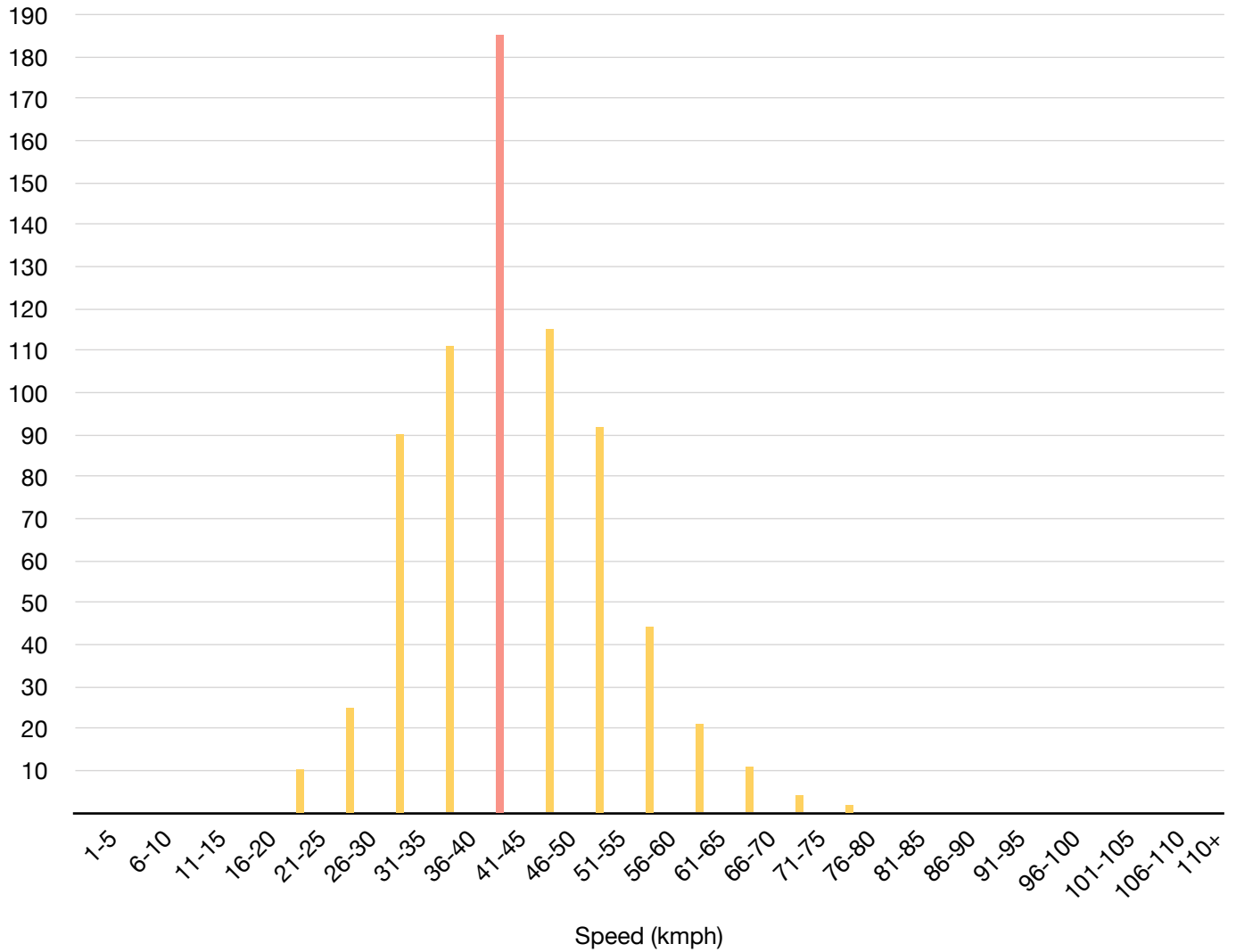


<span style="color: #808080;">●</span> Four-Wheeler	<b>133</b>	<b>19%</b>
<span style="color: #204060;">●</span> Heavy Vehicle	<b>17</b>	<b>2%</b>
<span style="color: #D9534F;">●</span> Three-Wheeler	<b>38</b>	<b>5%</b>
<span style="color: #C4C4A0;">●</span> Two-Wheeler	<b>522</b>	<b>74%</b>

<span style="color: #C4C4A0;">●</span> Morning	<b>222</b>	<b>31%</b>
<span style="color: #FFC300;">●</span> Afternoon	<b>248</b>	<b>35%</b>
<span style="color: #204060;">●</span> Night	<b>240</b>	<b>34%</b>

# Speed Profile

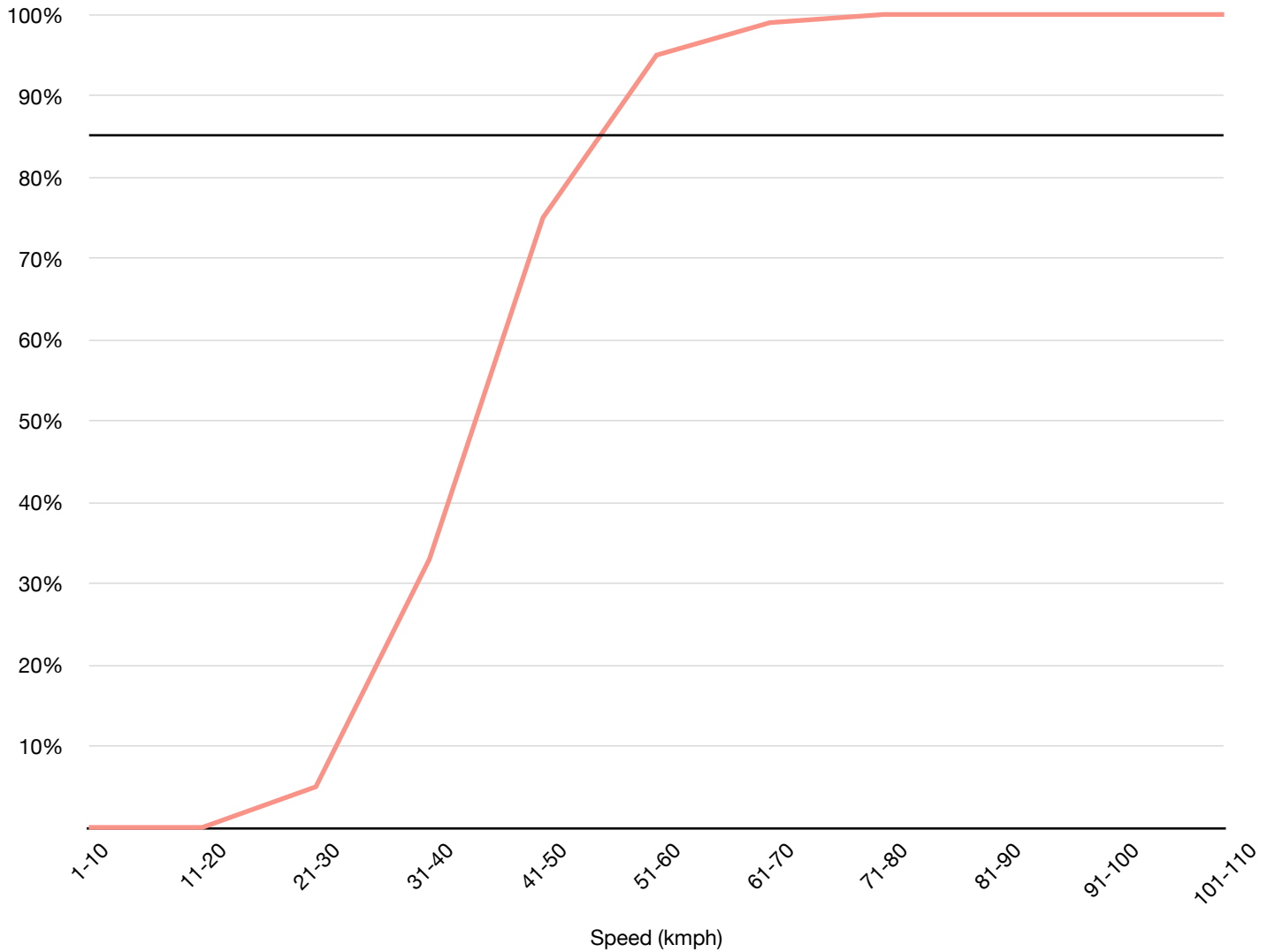
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph. The highest number of vehicles were travelling at 45 kmph.

# Speed Curve

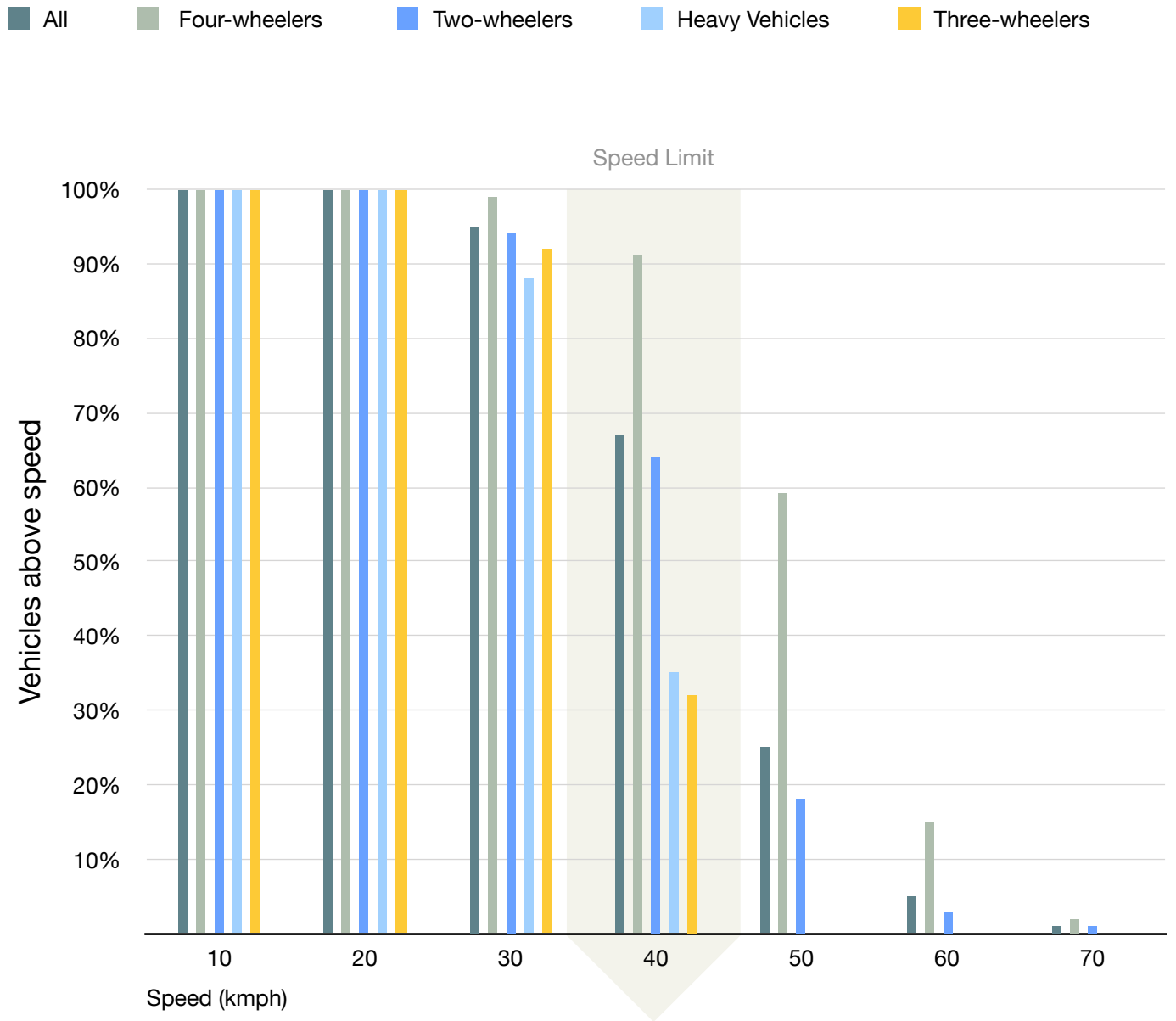
# Percent of vehicles below a speed range



The 85th percentile speed was 55 kmph. The maximum, i.e., 73% of vehicles were found to be travelling between 42 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle



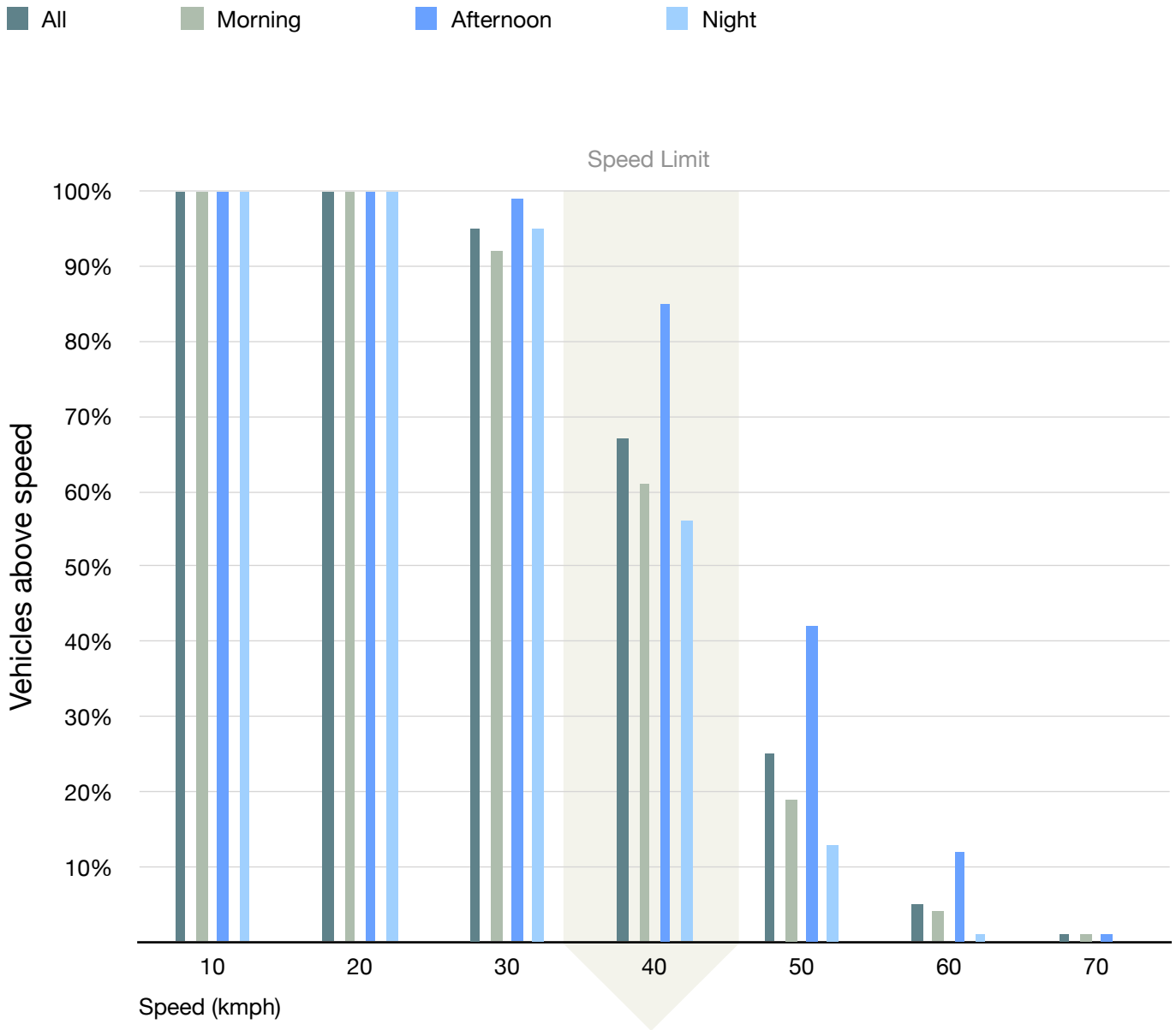
Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	67%	91%	64%	35%	32%

We find that 67% vehicles exceed the designated speed limit. Four-wheeler (91%) is the most and three-wheeler (32%) is the least.



# Speeding

## By time of day

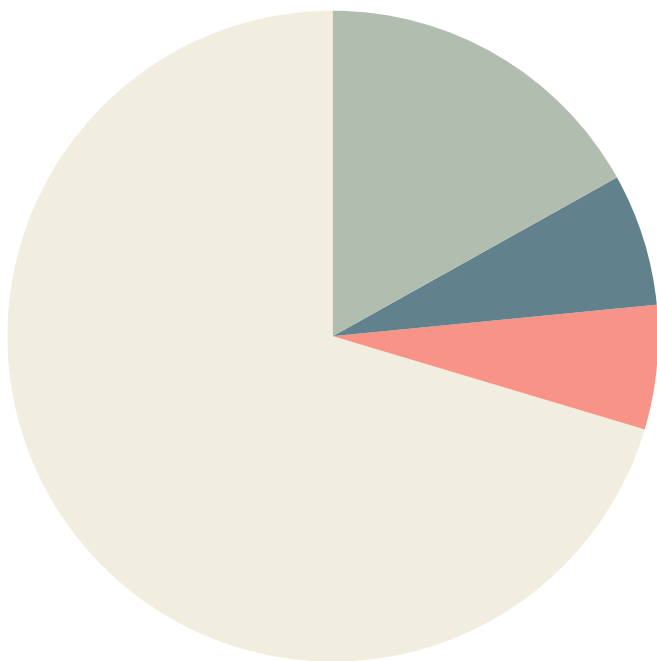


Speed limit	All	Morning	Afternoon	Night
40 kmph	67%	61%	85%	56%





We find that speed violation occurs most in the afternoon on this road which is 85%.

## Survey Profile

746 Vehicles






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	Four-Wheeler	<b>126</b>	<b>17%</b>
	Heavy Vehicle	<b>49</b>	<b>7%</b>
	Three-Wheeler	<b>46</b>	<b>6%</b>
	Two-Wheeler	<b>525</b>	<b>70%</b>

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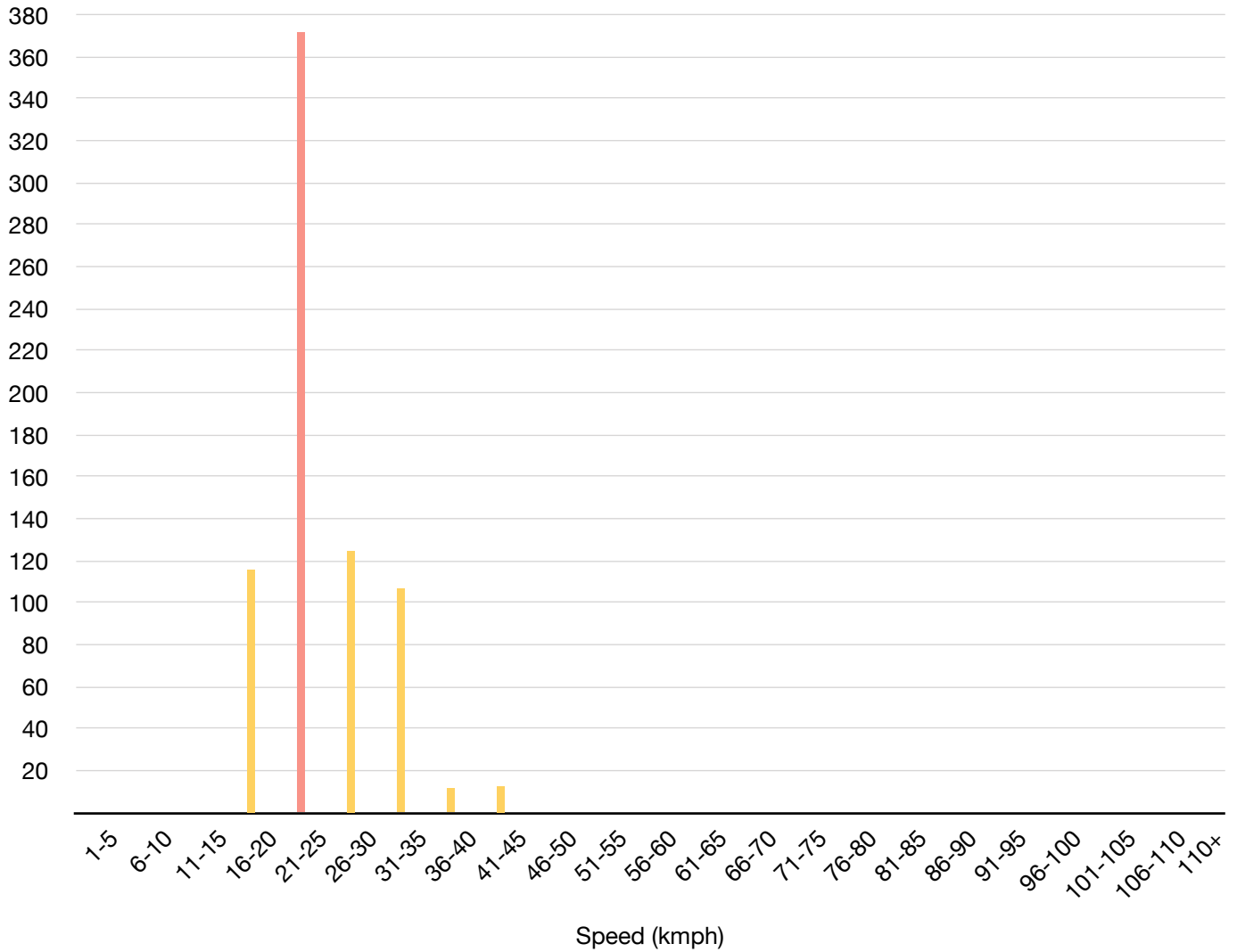
---

	Morning	<b>247</b>	<b>33%</b>
	Afternoon	<b>233</b>	<b>31%</b>
	Night	<b>266</b>	<b>36%</b>

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# Speed Profile

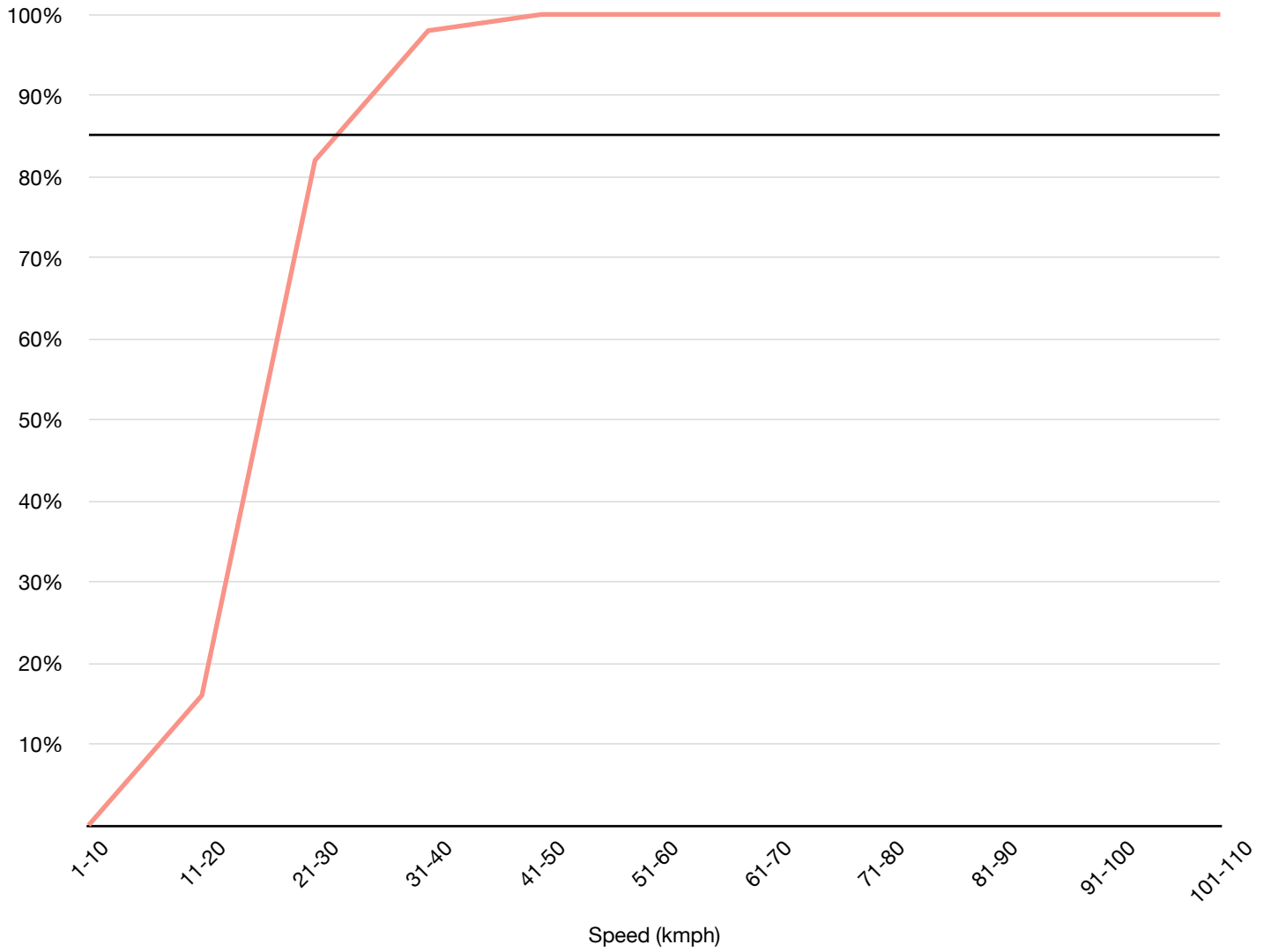
# Number of vehicles



The maximum number of vehicles were travelling between 21-25 kmph, followed by 26-30 kmph. The highest number of vehicles were travelling at 22 kmph.

# Speed Curve

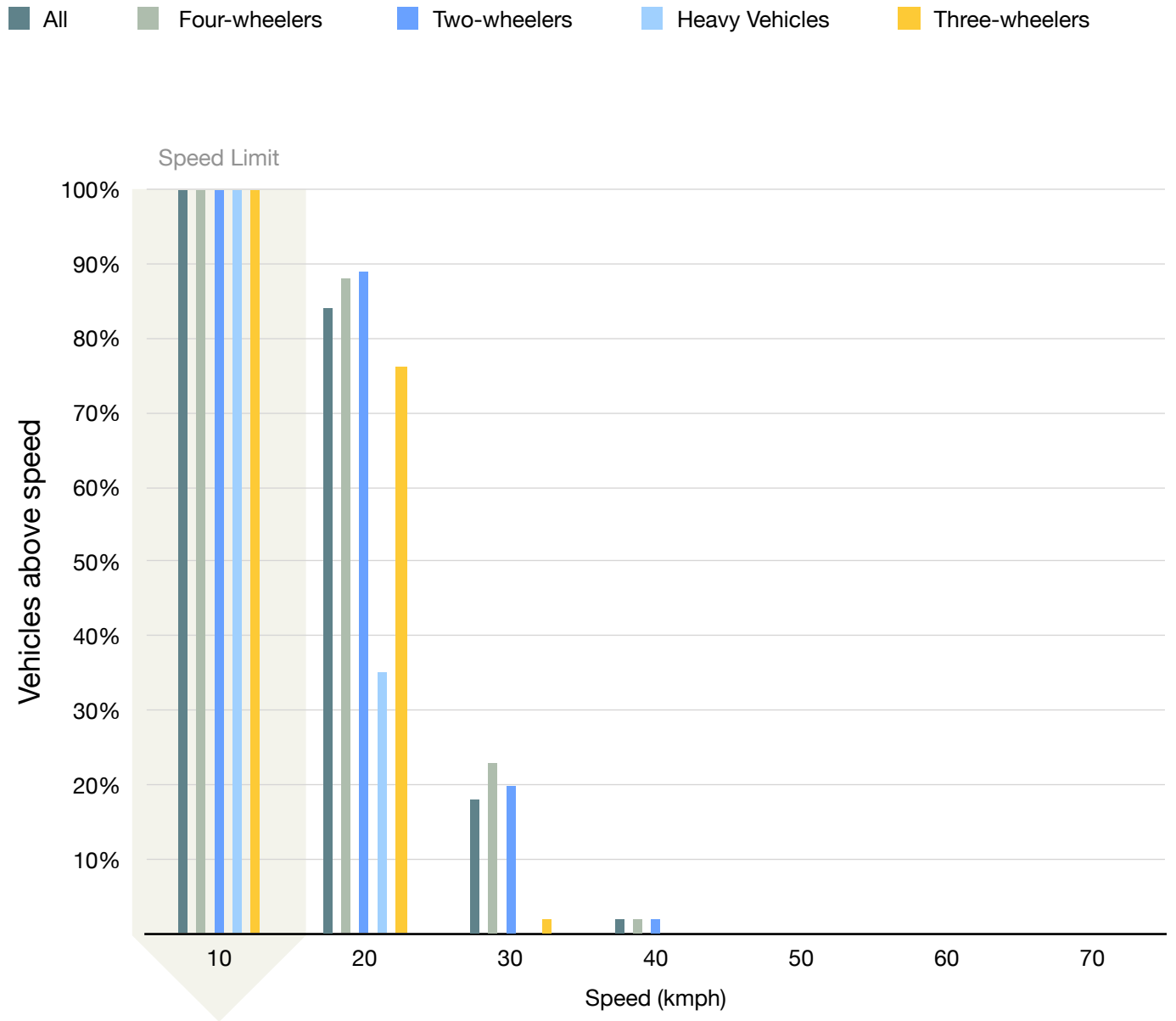
# Percent of vehicles below a speed range



The 85th percentile speed was 31 kmph. The maximum, i.e., 97% of vehicles were found to be travelling between 26 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

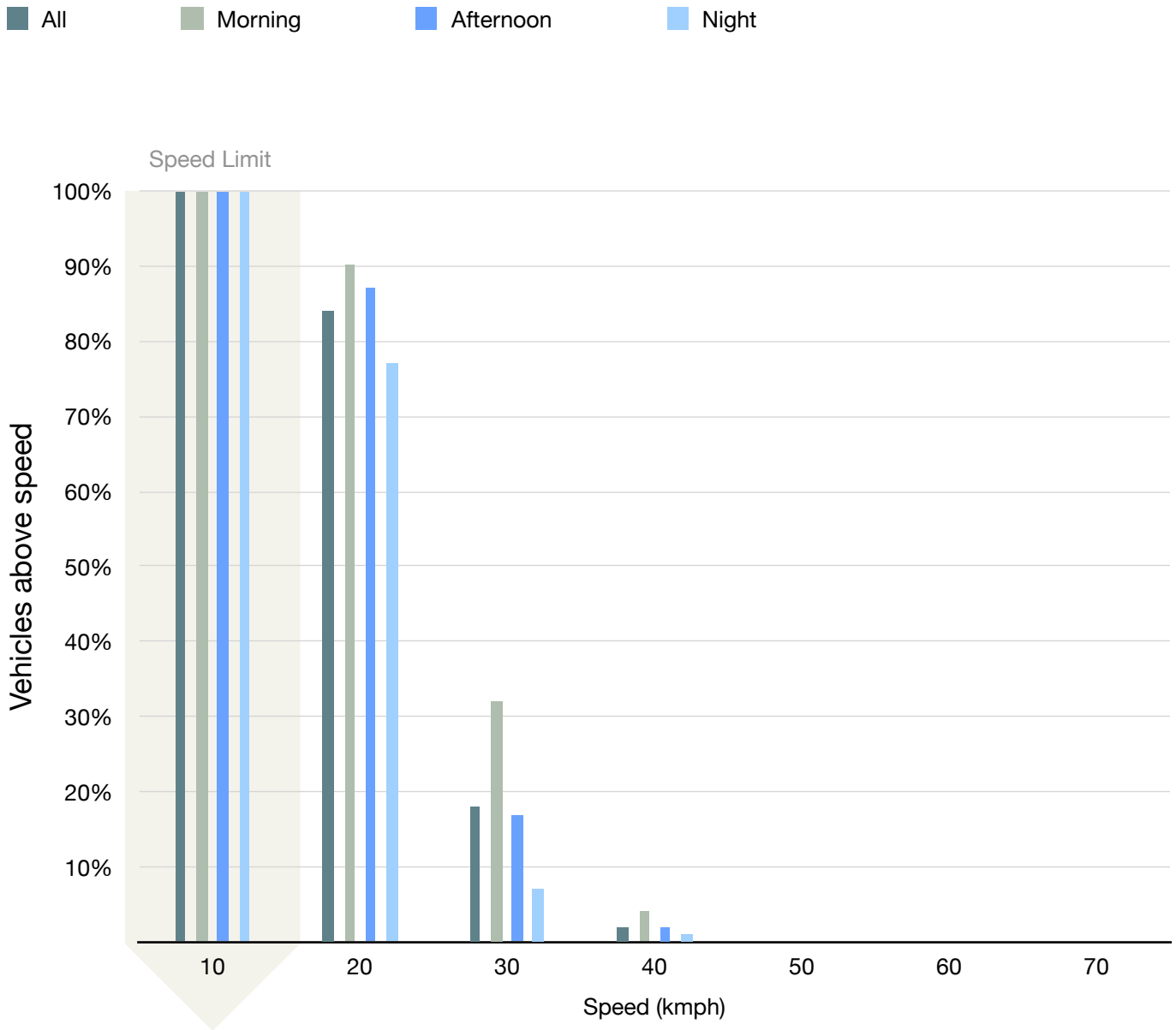


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
10 kmph	100%	100%	100%	100%	100%

Due to lowest speed limit in the city, we find that almost all (100%) vehicles exceed the designated speed limit.

# Speeding

## By time of day

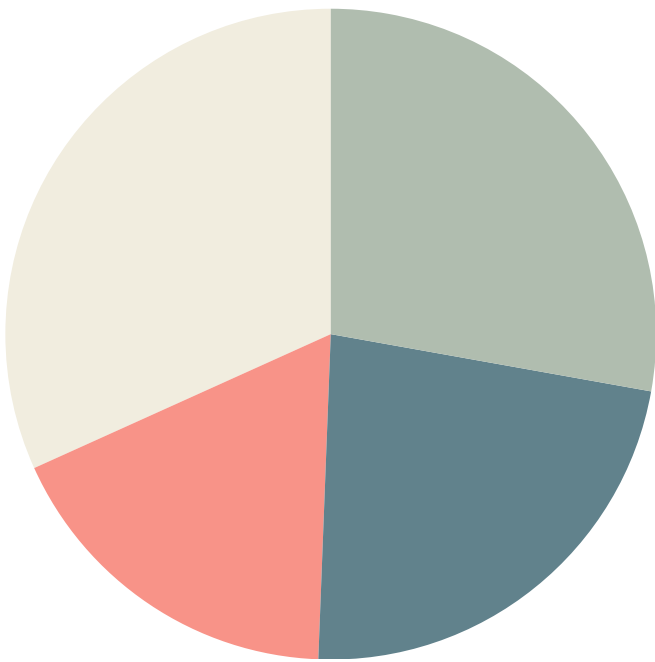


Speed limit	All	Morning	Afternoon	Night
10 kmph	100%	100%	100%	100%





We find that generally a greater proportion of the morning traffic tends to exceed the speeds of 20 kmph and 30 kmph.

Survey Profile

739 Vehicles






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	Four-Wheeler	<b>205</b>	<b>28%</b>
	Heavy Vehicle	<b>168</b>	<b>23%</b>
	Three-Wheeler	<b>130</b>	<b>17%</b>
	Two-Wheeler	<b>234</b>	<b>32%</b>

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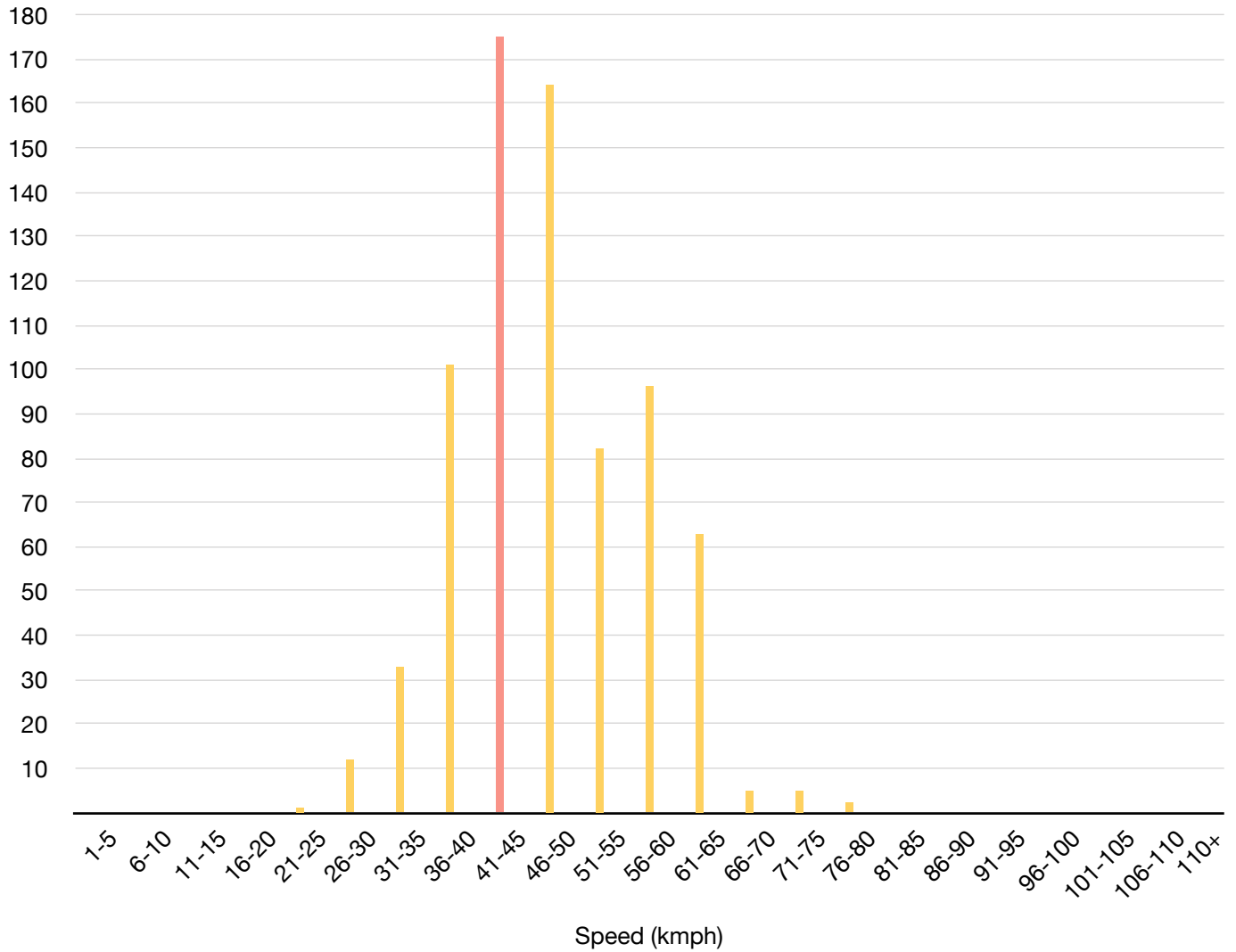
---

	Morning	<b>238</b>	<b>32%</b>
	Afternoon	<b>189</b>	<b>26%</b>
	Night	<b>312</b>	<b>42%</b>

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# Speed Profile

# Number of vehicles

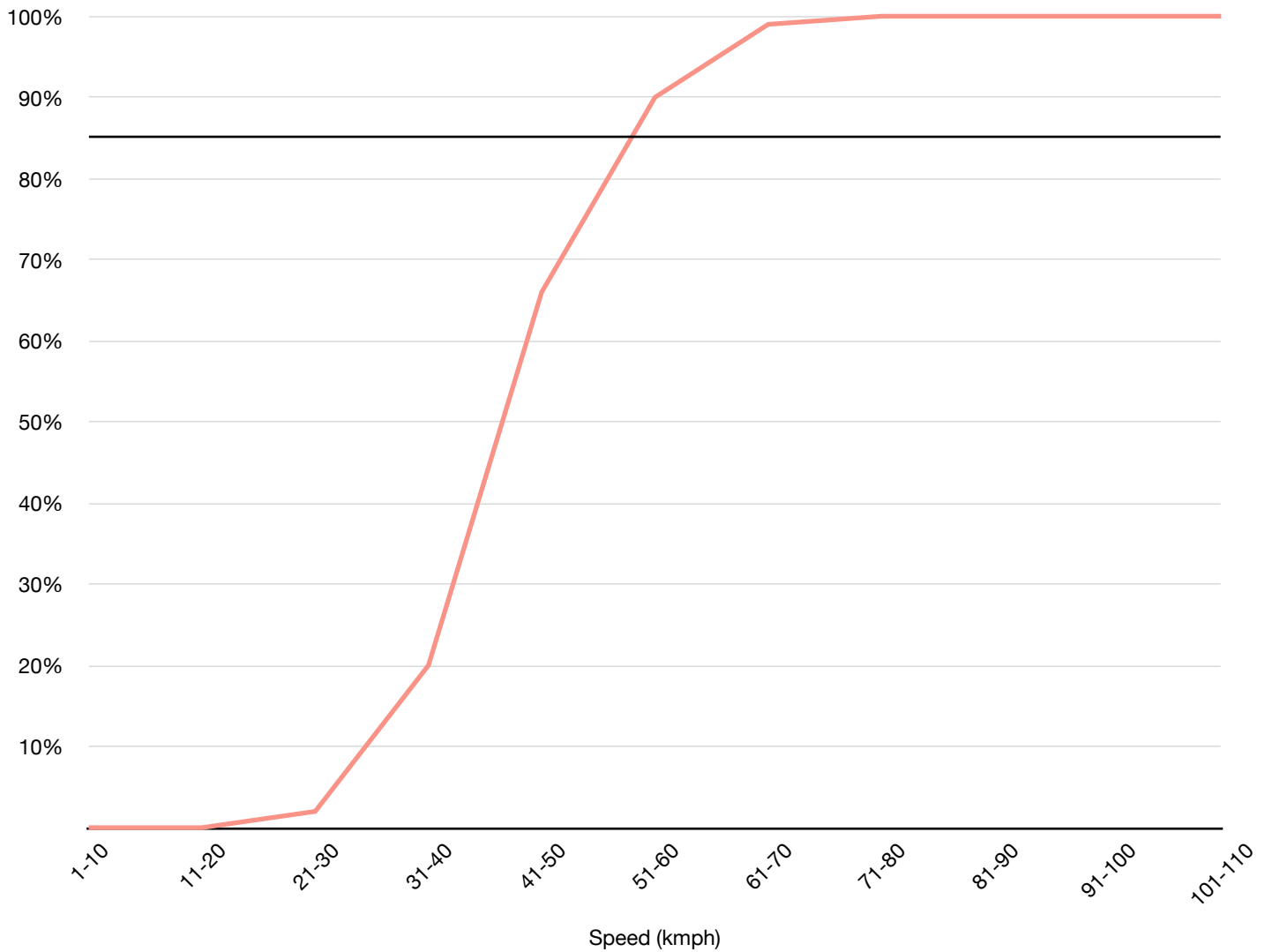


The maximum number of vehicles were travelling between 41-45 kmph, followed by 46-50 kmph. The highest number of vehicles were travelling at 48 kmph.



# Speed Curve

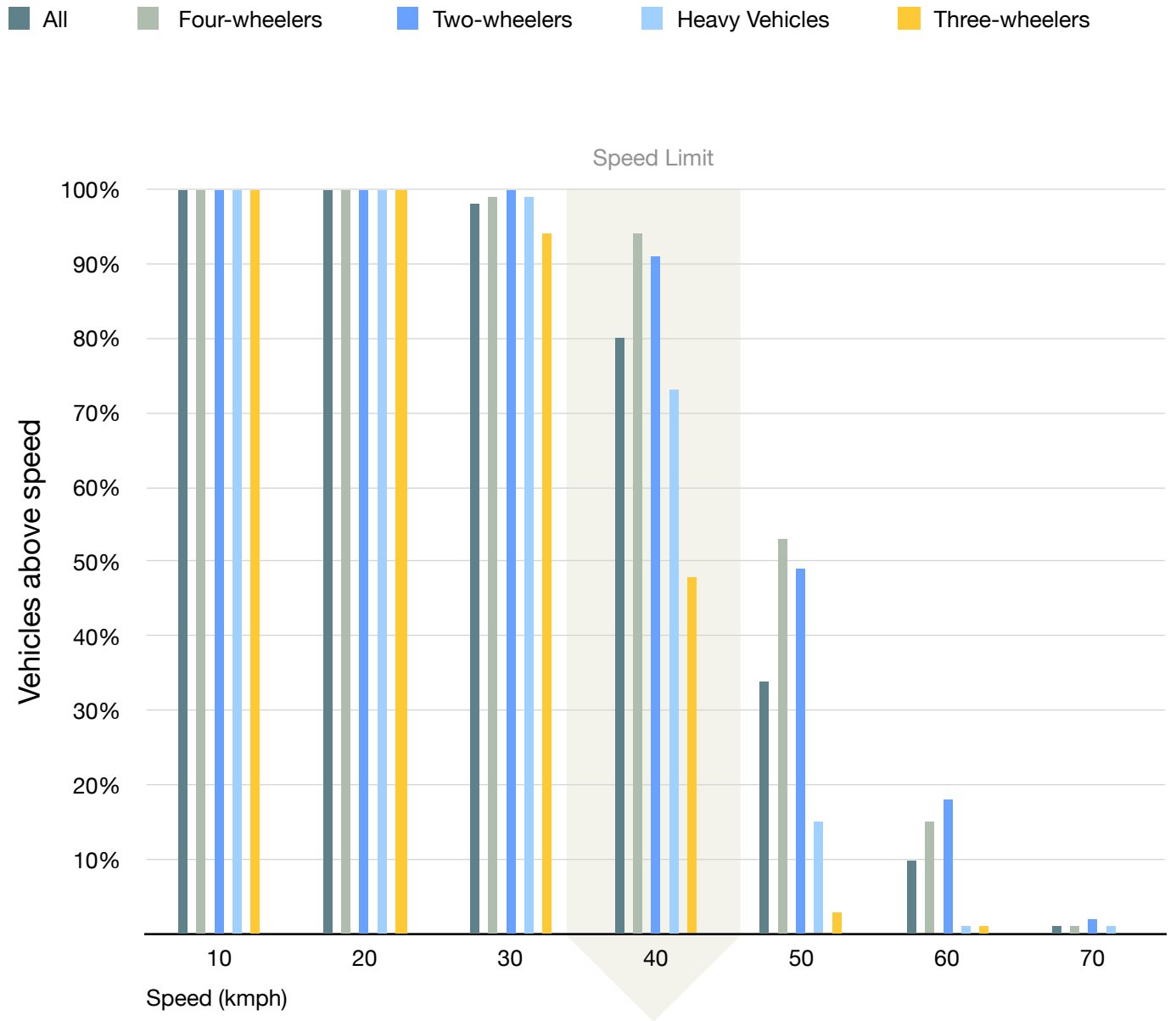
## Percent of vehicles below a speed range



The 85th percentile speed was 59 kmph. The maximum, i.e., 74% of vehicles were found to be travelling between 49 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

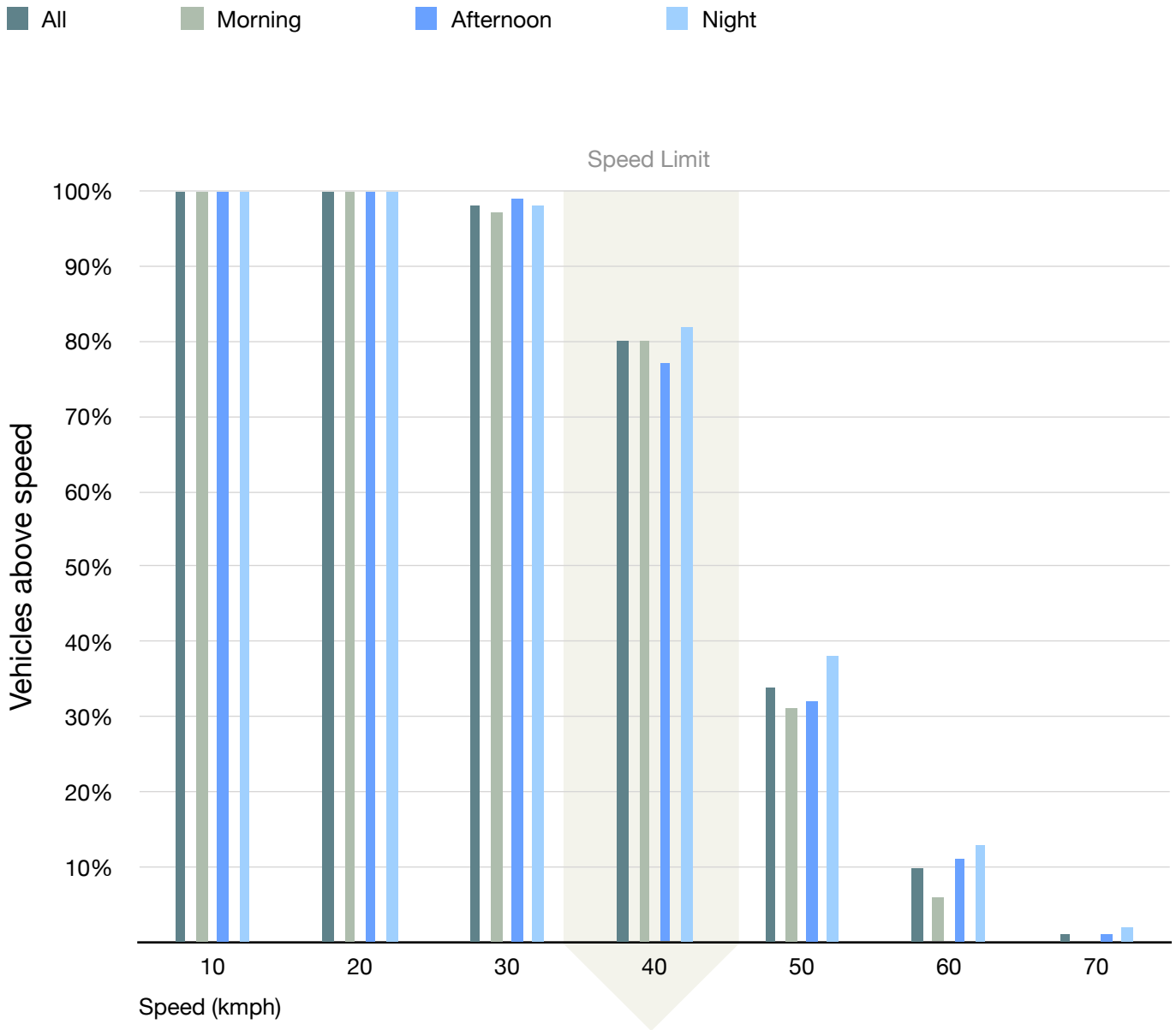


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	80%	94%	91%	73%	48%

We find that 100% vehicles exceed the designated speed limit. However, we find that at 40 kmph, far more four-wheelers exceed the speed (94%) as compared to heavy vehicles and three-wheelers.

# Speeding

## By time of day



Speed limit	All	Morning	Afternoon	Night
40 kmph	80%	80%	77%	82%

We find that that at night speeds tend to be higher, with 38% of vehicles going above 50 kmph as compared to 31%/32% in the morning and afternoon.

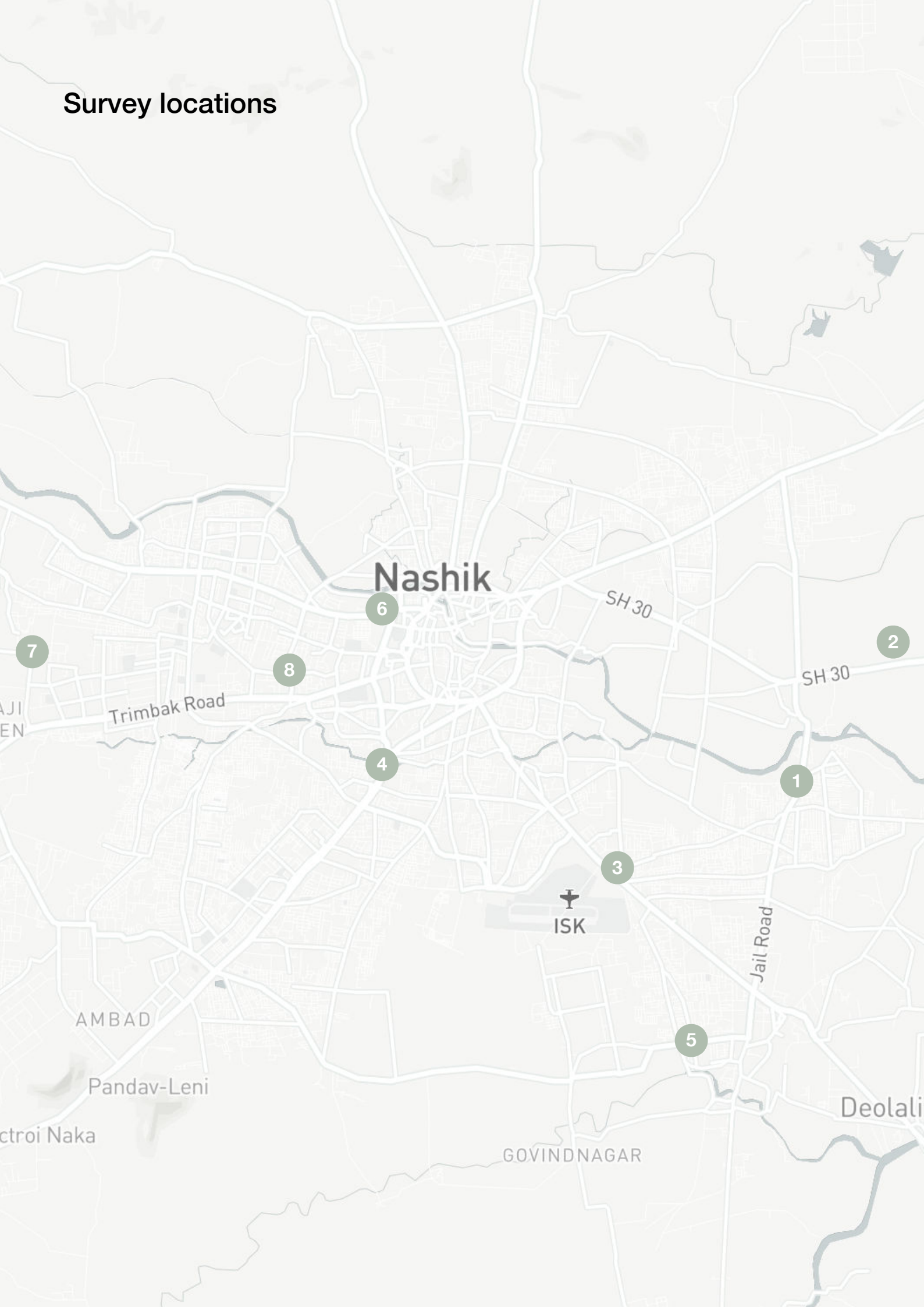
# Nashik

NOVEMBER 2020

The survey was conducted on 8 roads in the city of Nashik

#	Road	No. Of vehicles surveyed	Survey Location	Posted Speed Limit (kmph)
1	Nashik, Jail road	1073	Near Satbhai Nagar, Dhara Society	30
2	Nashik Aurangabad	1136	Mandsangavi Nashik	30
3	Nashik Pune	1358	Matoshri Nagar, Upnagar.	40
4	Mumbai Agra	1012	Suyojit Commercial Complex, Govind Nagar	40
5	Nashik Artillery road	1139	Aute Nagar, Near Samarajya Society	20
6	Nashik Gangapur road	1069	Malhar Khani Slum, Gangapur	30
7	Nashik Trambakeshwar	1484	Satpur Colony, Nashik.	30
8	Nashik Sharanpur Link	1115	P&T Colony, near HDFC House	30
	<b>TOTAL</b>	<b>9386</b>		

# Survey locations



Nashik

SH 30

SH 30

Trimbak Road

ISK

Jail Road

AMBAD

Pandav-Leni

GOVINDNAGAR

Deolali

ctroi Naka

7

8

6

4

3

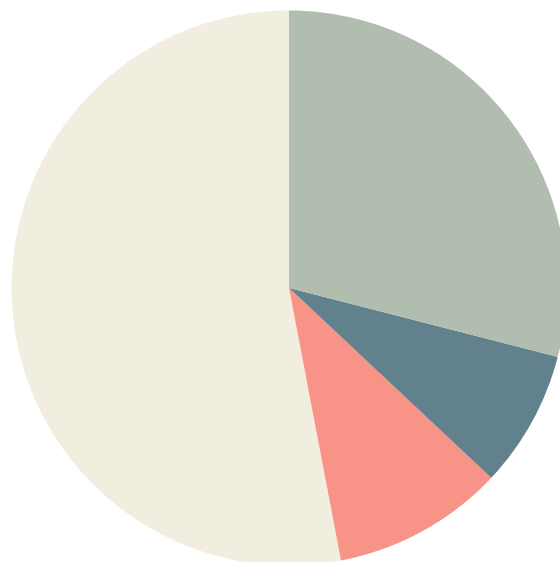
1

2

5

### Vehicles Surveyed - type

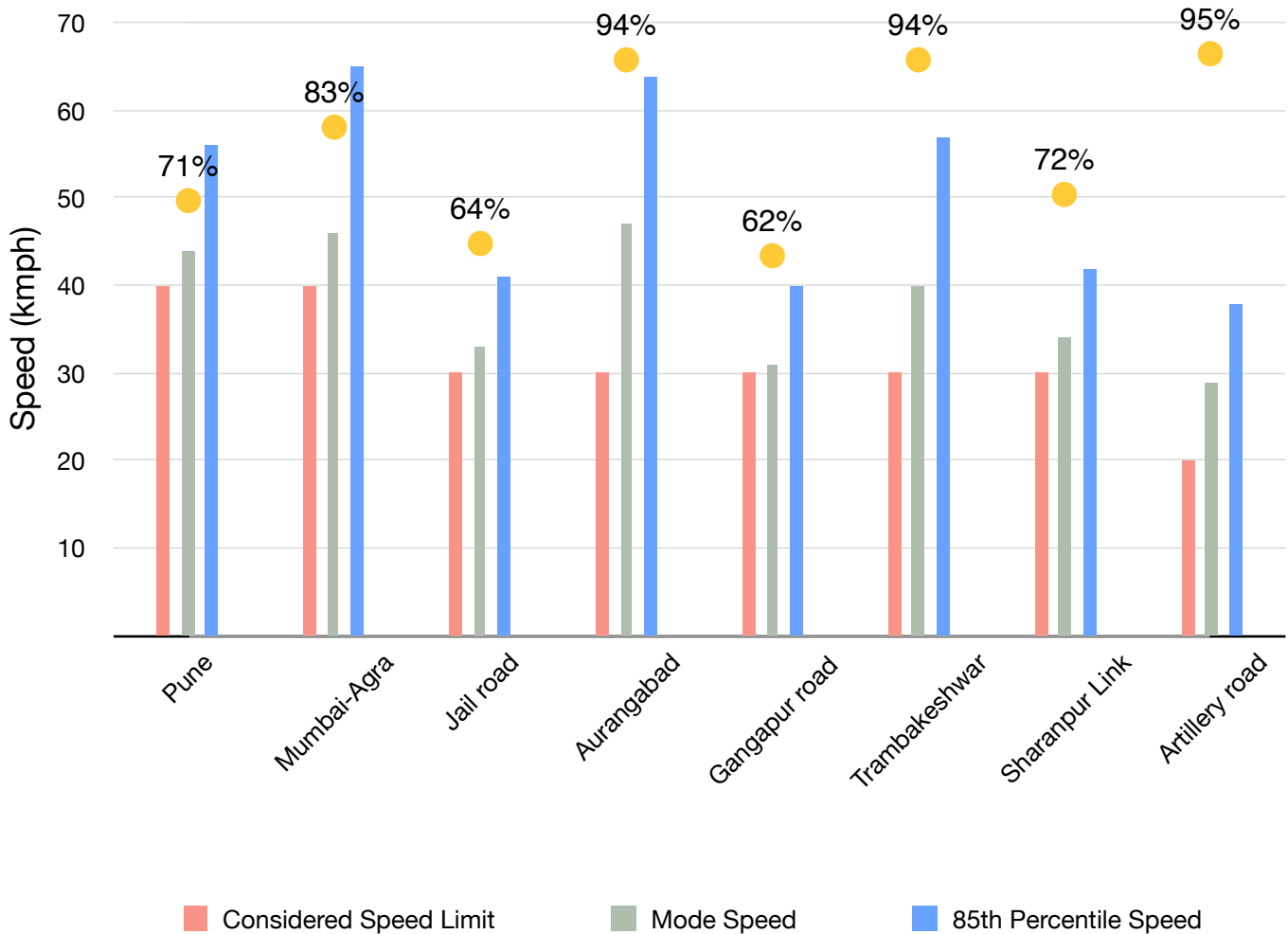
●	Four-Wheeler	29%
●	Heavy Vehicle	8%
●	Three-Wheeler	10%
●	Two-Wheeler	53%



## Results

#	Name of the street	Posted speed limit	Considered Speed Limit	Violation %	Speed Mode	85th perc speed	Excessive speed mode	Higher Speed Time
1	Nashik Jail road	30	30	64%	33	41	4w	same
2	Nashik Aurangabad	30	30	94%	47	64	4w	M
3	Nashik Pune	40	40	71%	44	56	4w	M
4	Mumbai Agra	40	40	83%	46	65	4w	A
5	Nashik Artillery Road	20	20	95%	29	38	2w	MA
6	Nashik Gangapur road	30	30	62%	31	40	4w,2w	M
7	Nashik Trambakeshwar	30	30	94%	40	57	4w	M
8	Nashik Sharanpur Link	30	30	72%	34	42	4w,2w	M

## Speed Limit - Mode Speed - 85th Percentile Speed Speed Violation%



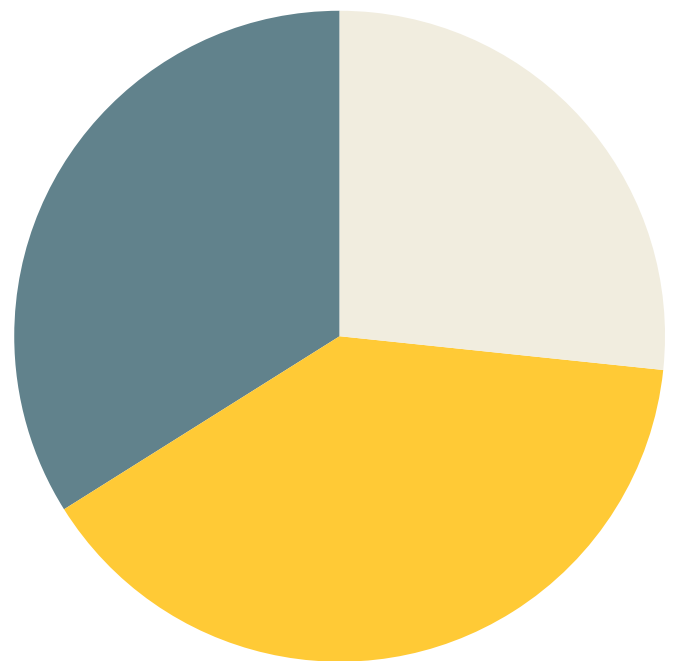
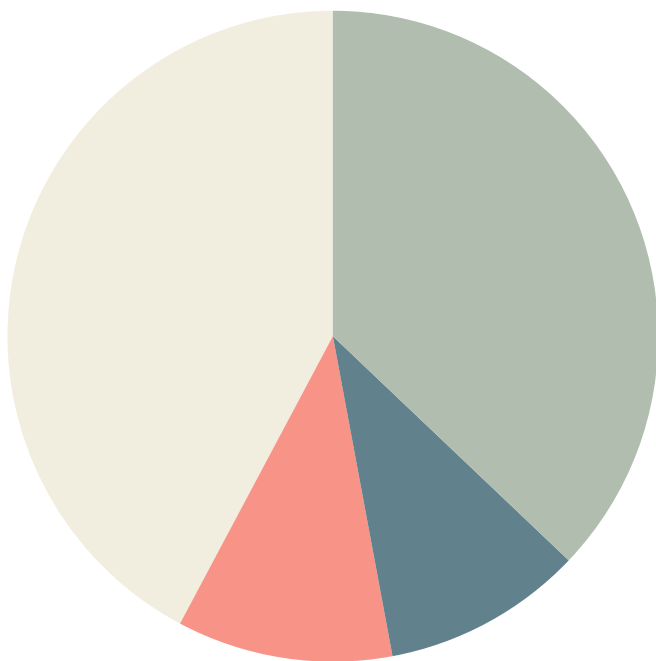
Every single road in Nashik had a speed violation of 60% or higher, with 3 roads having 94% or higher vehicles exceeding the speed limit.

However, for most roads the maximum number of vehicles were traveling at a speed (speed mode) close to the speed limit (except for Nashik-Aurangabad road). This indicates that a large number of vehicles are indeed traveling close to the speed limit, but many others are exceeding the speed by large margins.

Except for the Mumbai-Agra road all roads surveyed had higher speeds in the morning. On 7 out of the eight roads four-wheelers had higher speed violations (except Artillery road, where two-wheelers were travelling faster).

## Survey Profile

1073 Vehicles



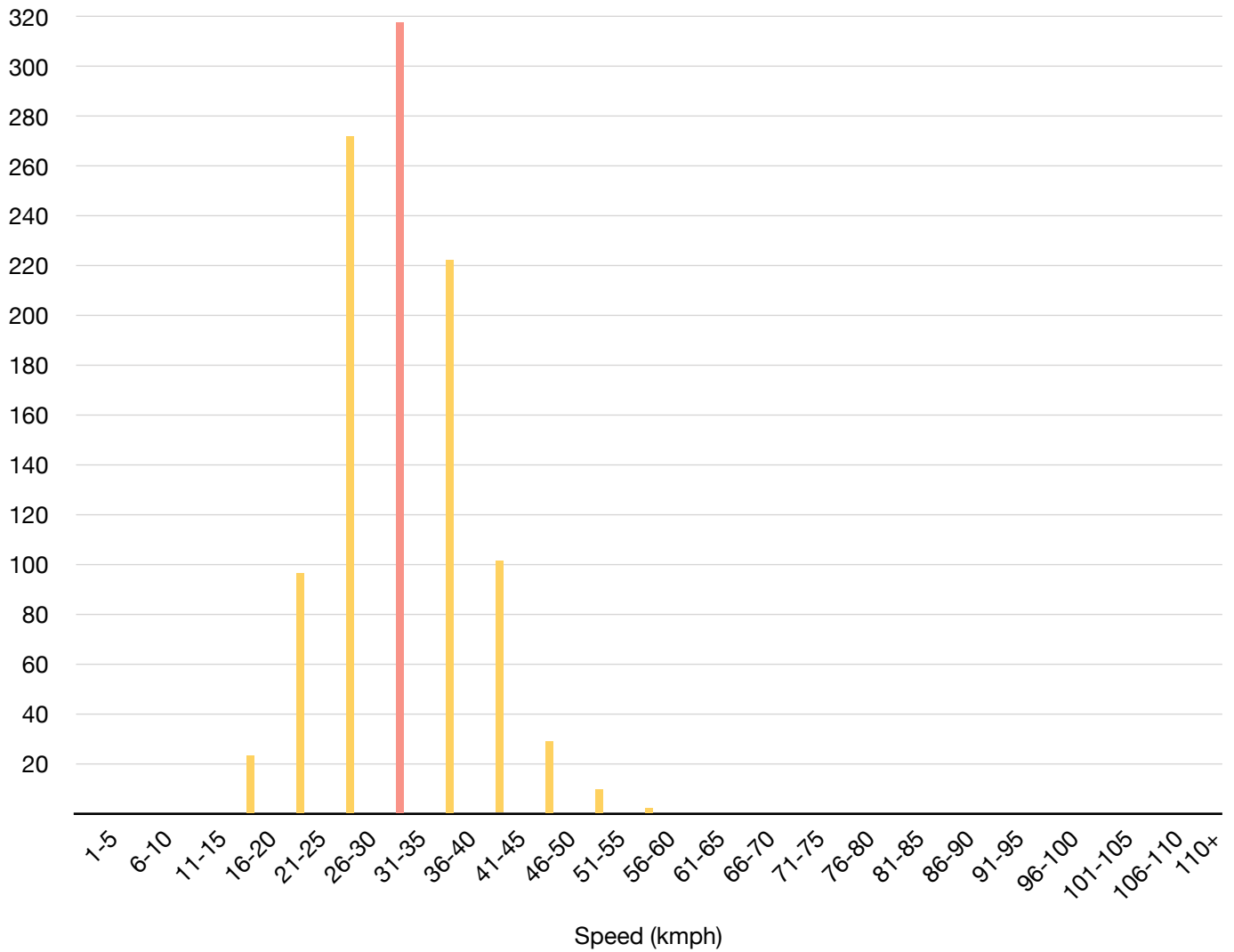
<span style="color: #808080;">●</span> Four-Wheeler	<b>398</b>	<b>37%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>107</b>	<b>10%</b>
<span style="color: #F08080;">●</span> Three-Wheeler	<b>115</b>	<b>11%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>453</b>	<b>42%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>286</b>	<b>27%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>423</b>	<b>39%</b>
<span style="color: #4682B4;">●</span> Night	<b>364</b>	<b>34%</b>



# Speed Profile

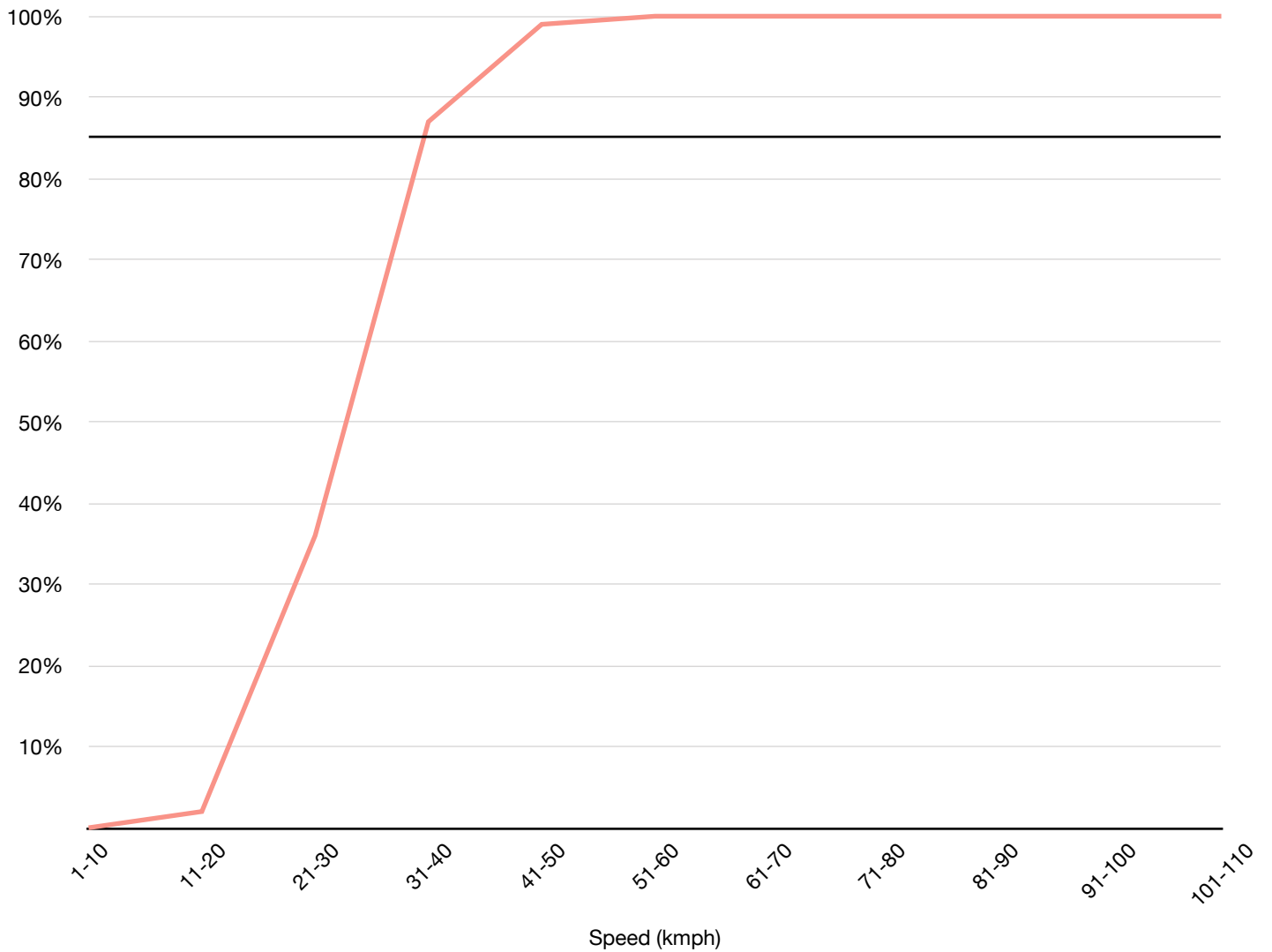
# Number of vehicles



The maximum number of vehicles were travelling between 31-35 kmph, followed by 26-30 kmph. The highest number of vehicles were travelling at 33 kmph.

# Speed Curve

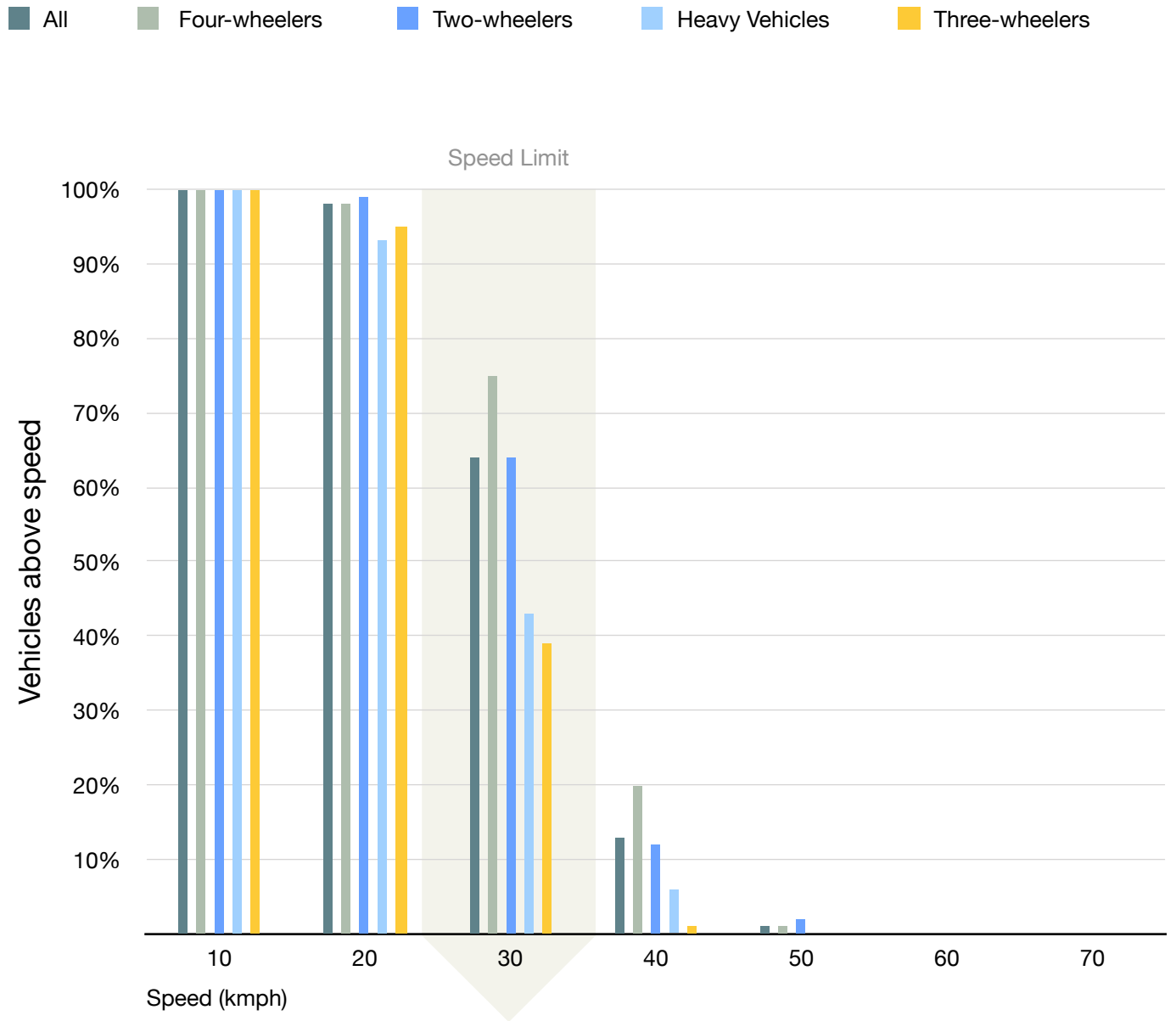
# Percent of vehicles below a speed range



The 85th percentile speed was 41 kmph. The maximum, i.e., 87% of vehicles were found to be travelling between 33 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

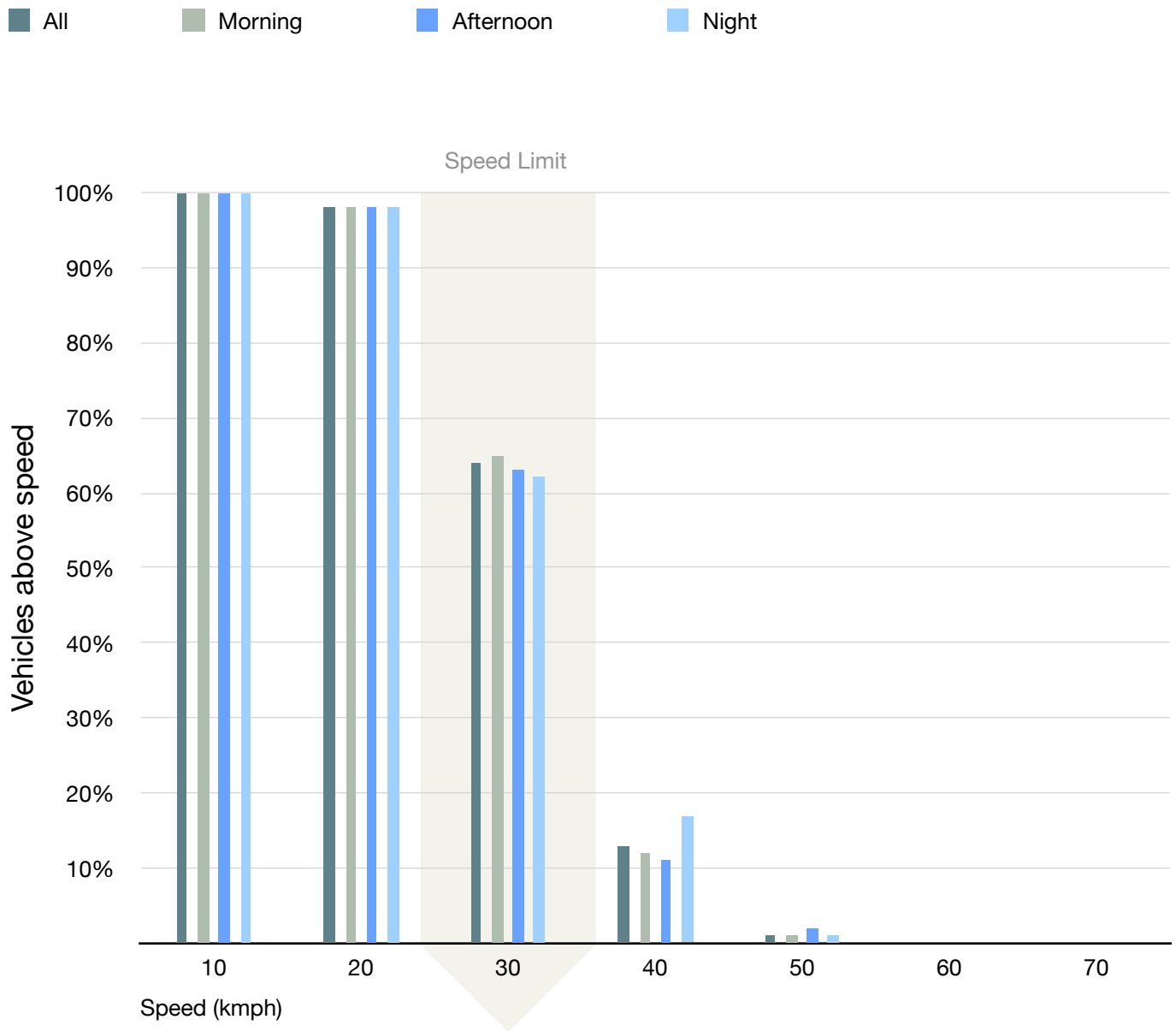


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	64%	75%	64%	43%	39%

We find that 64% vehicles exceed the designated speed limit. Four-wheeler (75%) and Two-wheeler (64%) violate the speed limit most.

# Speeding

## By time of day

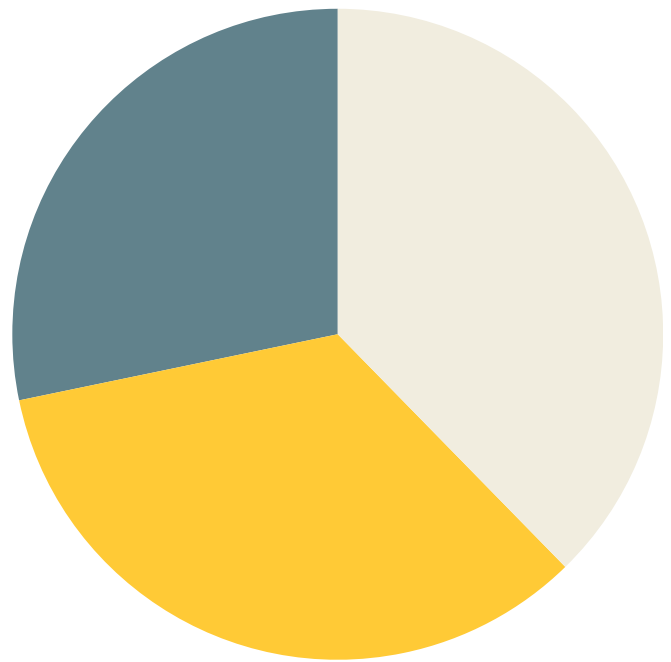
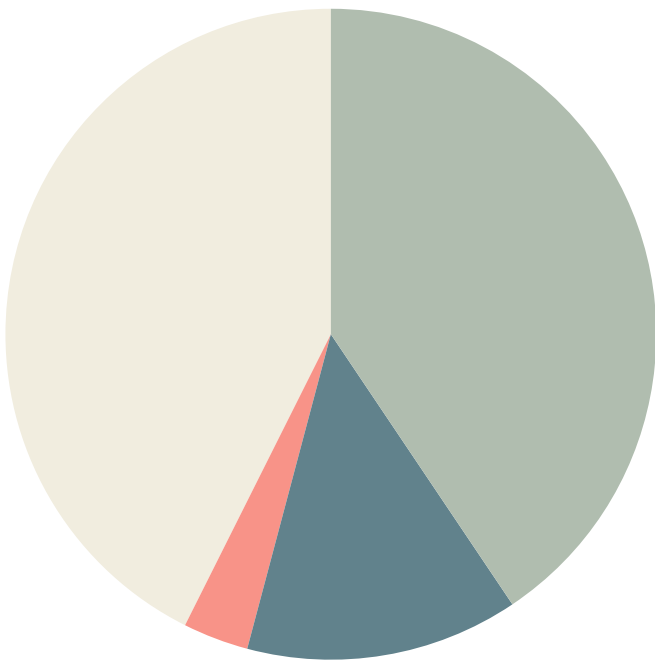


Speed limit	All	Morning	Afternoon	Night
30 kmph	64%	65%	63%	62%

On this road, time of day does not seem to vary the % of speed violations.

## Survey Profile

1136 Vehicles

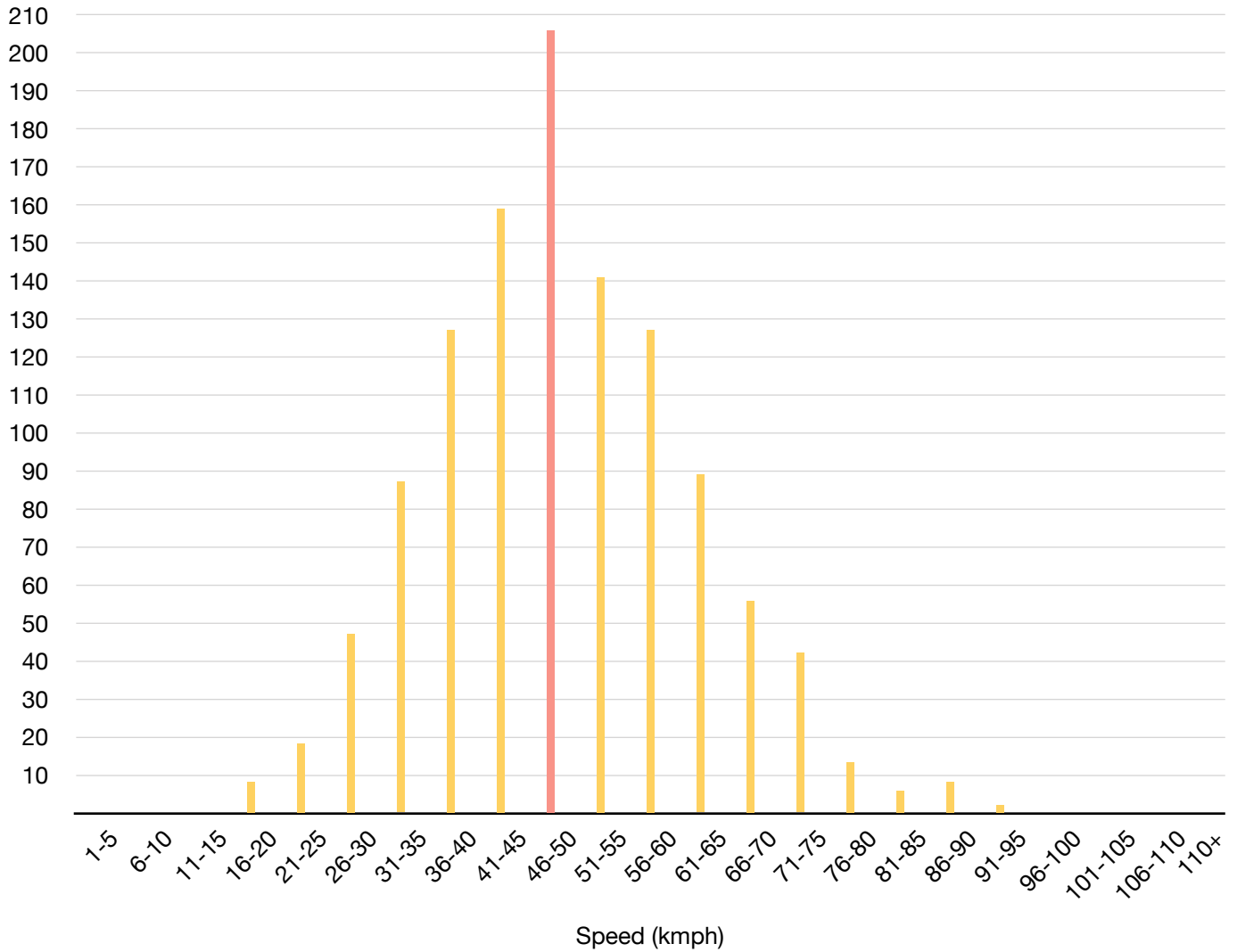


<span style="color: #808080;">●</span> Four-Wheeler	<b>461</b>	<b>41%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>154</b>	<b>14%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>37</b>	<b>3%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>484</b>	<b>43%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>428</b>	<b>38%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>387</b>	<b>34%</b>
<span style="color: #4682B4;">●</span> Night	<b>321</b>	<b>28%</b>

# Speed Profile

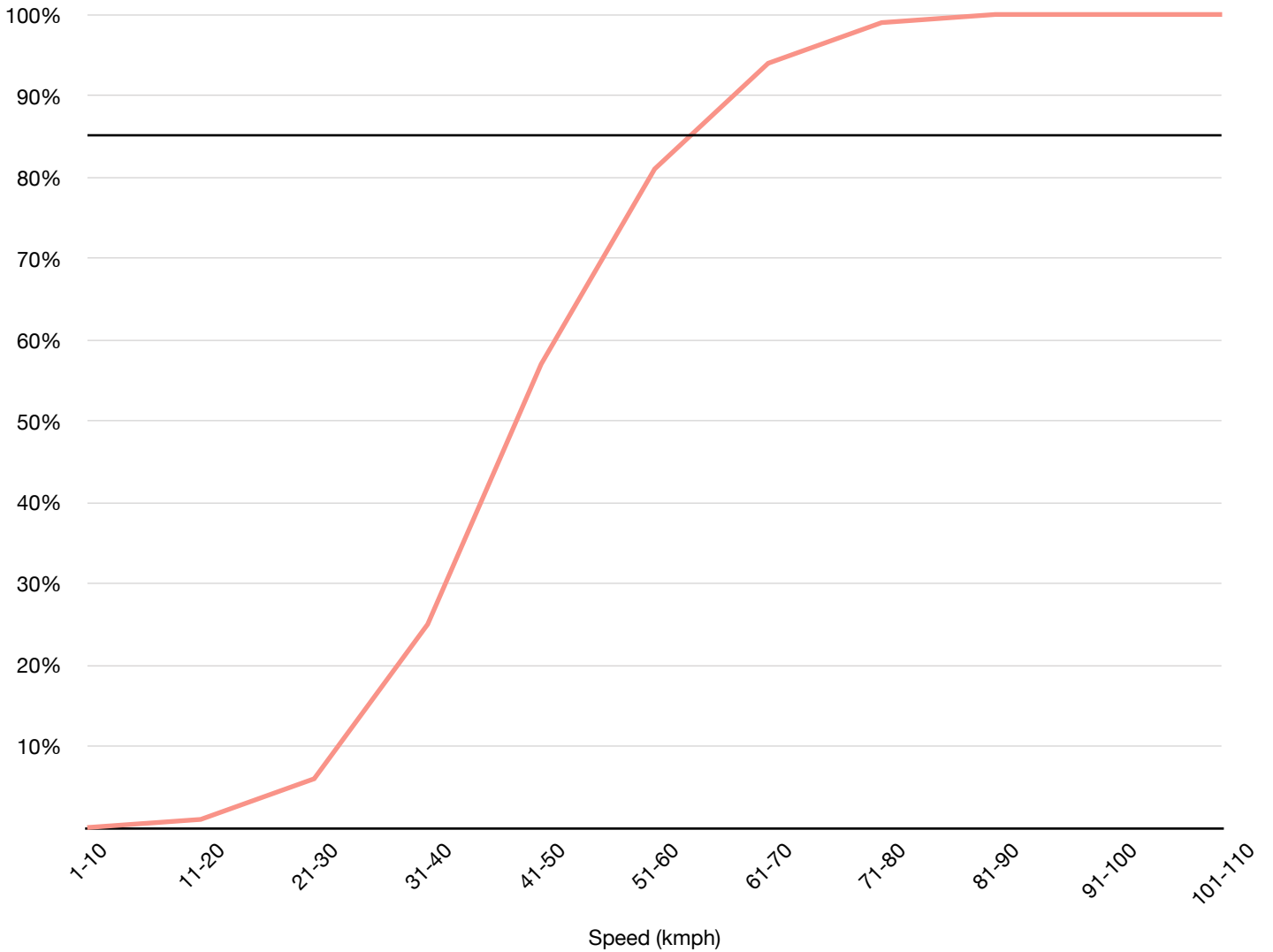
# Number of vehicles



The maximum number of vehicles were travelling between 46-50kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 47 kmph.

# Speed Curve

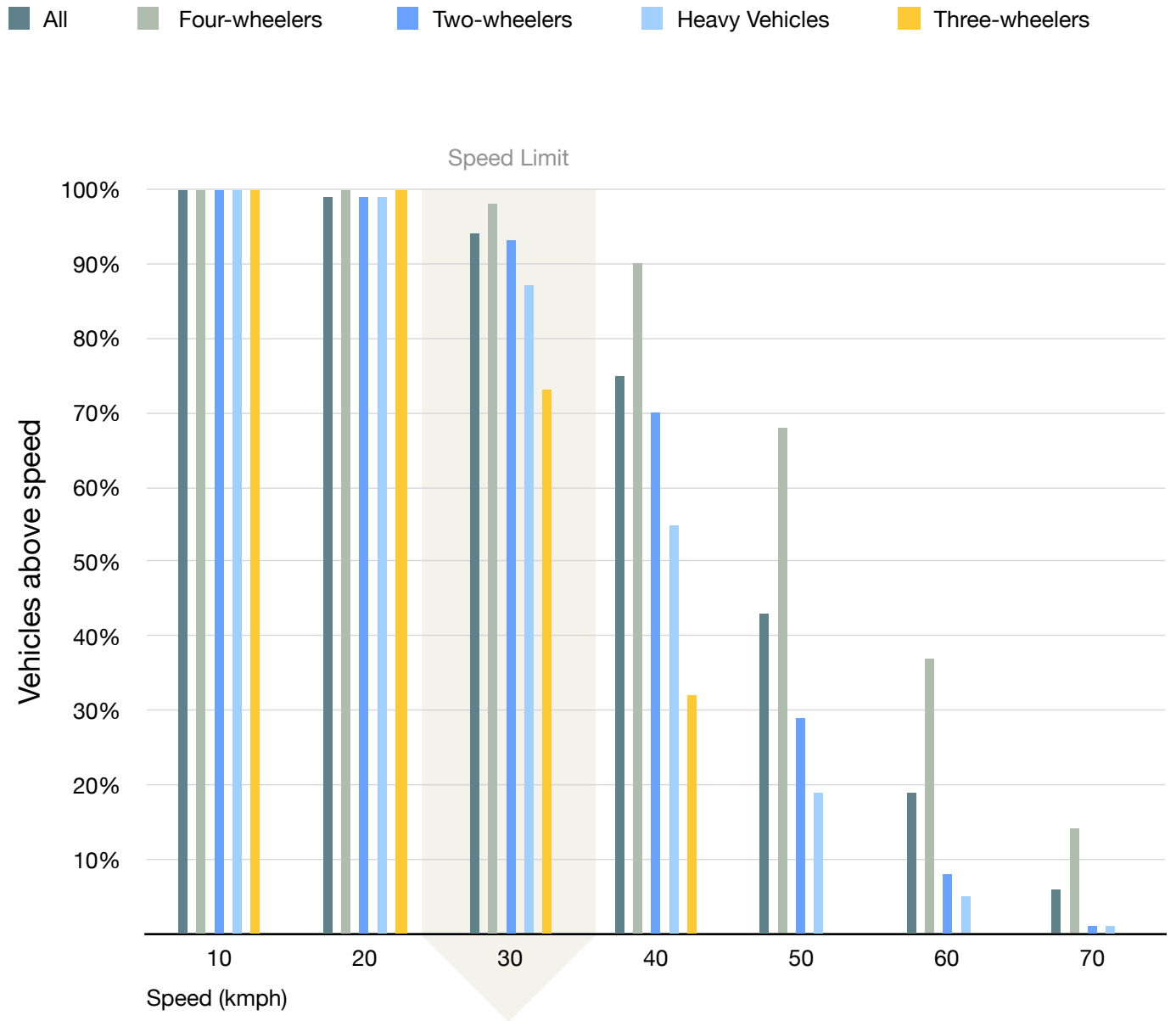
# Percent of vehicles below a speed range



The 85th percentile speed was 64 kmph. The maximum, i.e., 57% of vehicles were found to be travelling between 49 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle



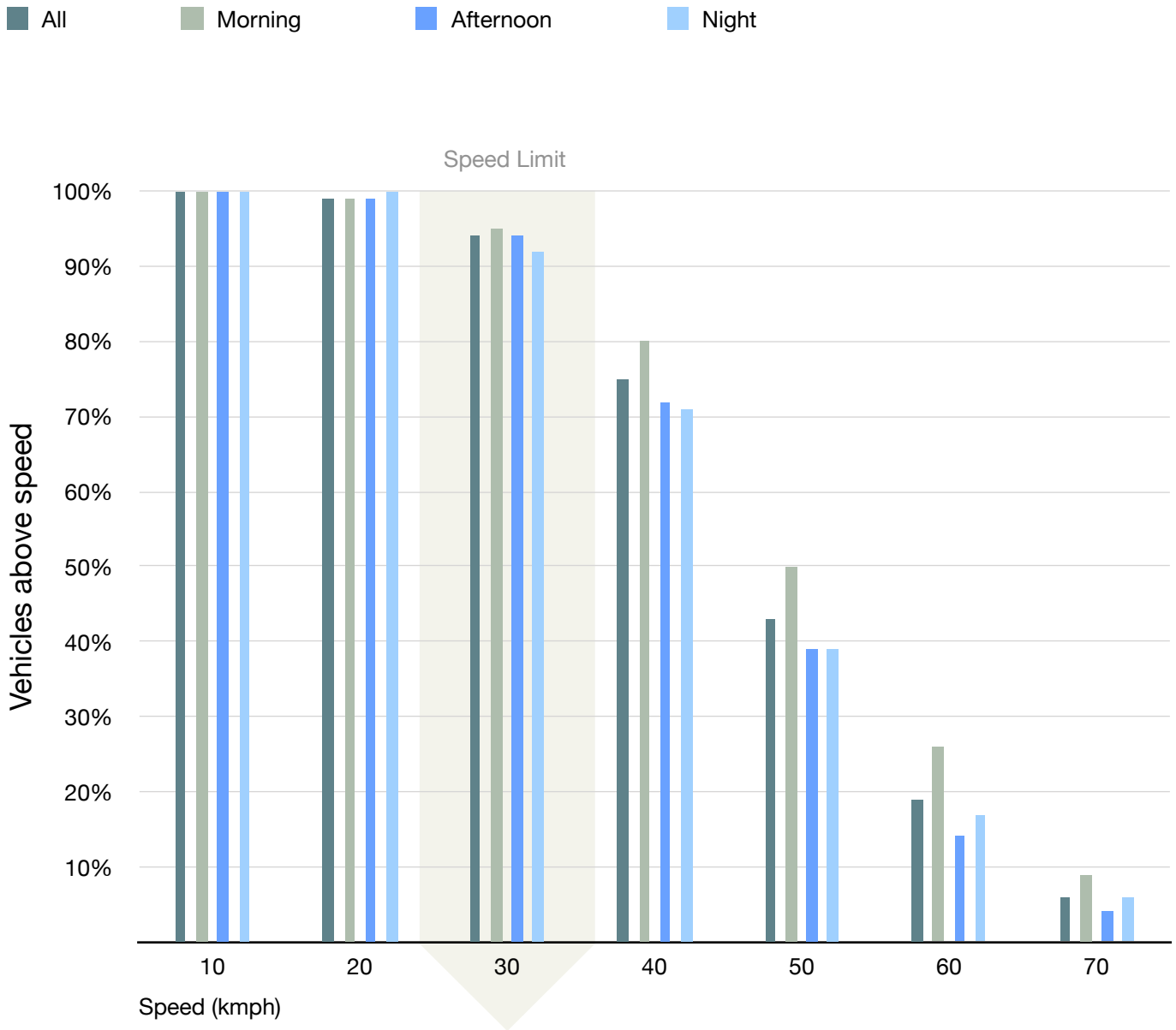
Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	94%	98%	93%	87%	73%

We find that 64% vehicles exceed the designated speed limit. Four-wheeler (75%) and Two-wheeler (64%) violate the speed limit most.



# Speeding

## By time of day

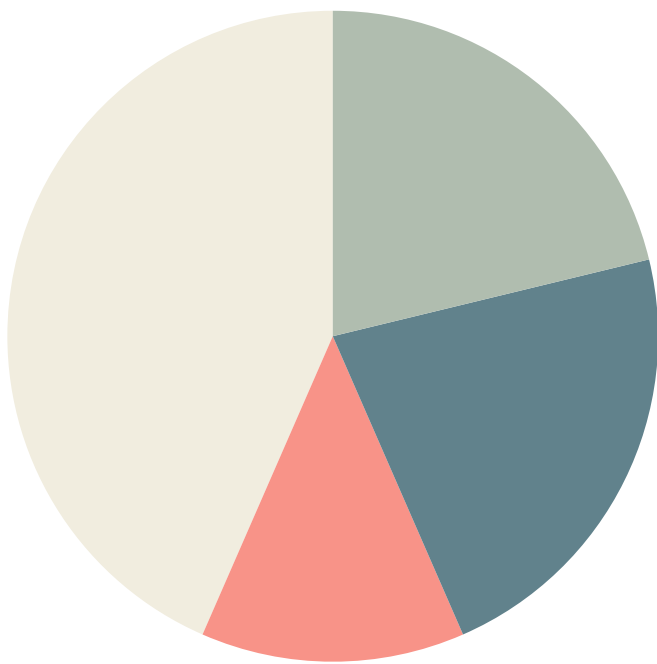


Speed limit	All	Morning	Afternoon	Night
30 kmph	94%	95%	94%	92%

We find that 94% speed violation occurs throughout a day. At higher speeds we find morning traffic tends to have greater violating %.

Survey Profile

1358 Vehicles

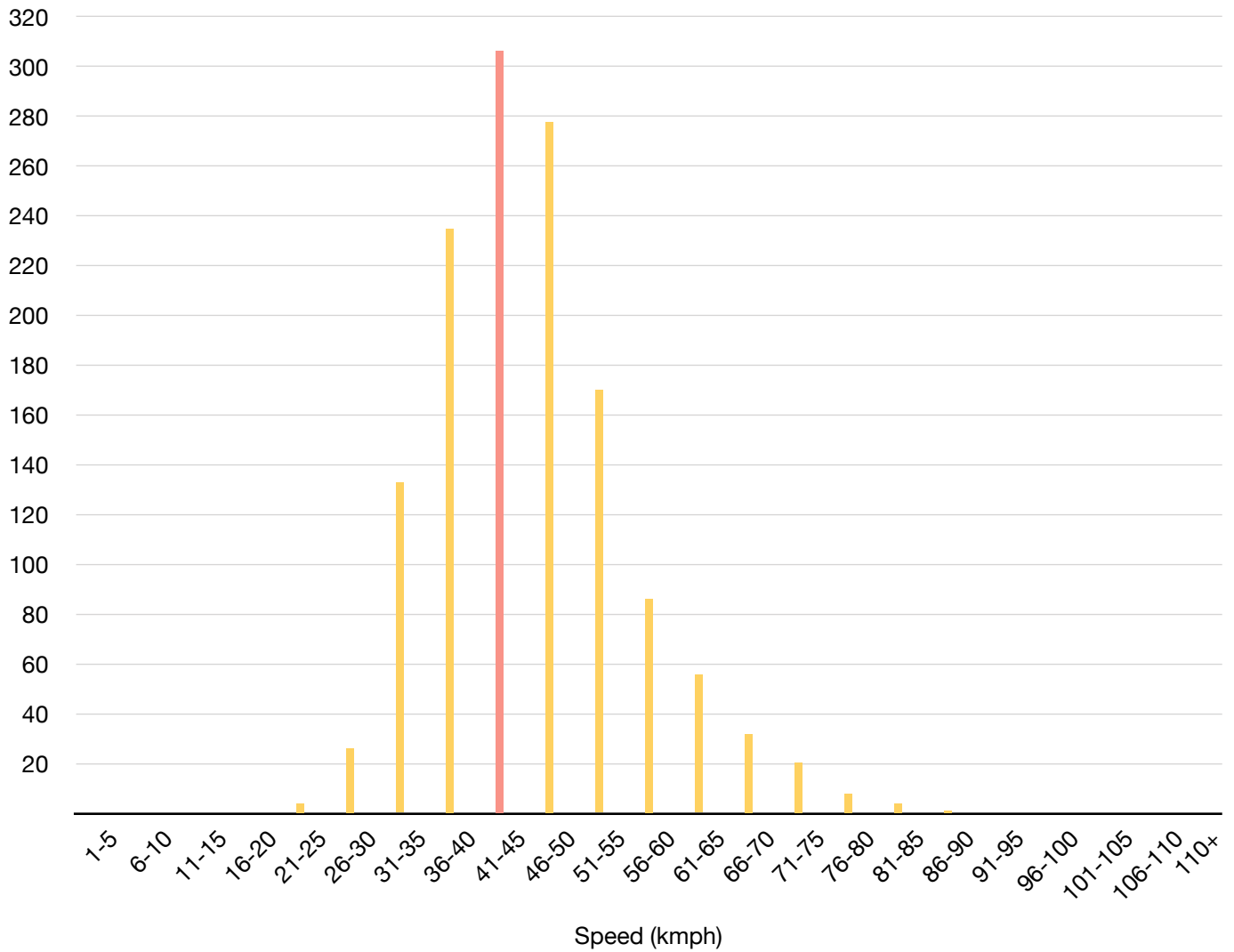


<span style="color: #808080;">●</span>	Four-Wheeler	<b>288</b>	<b>21%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>302</b>	<b>22%</b>
<span style="color: #F08080;">●</span>	Three-Wheeler	<b>178</b>	<b>13%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>590</b>	<b>43%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>469</b>	<b>35%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>491</b>	<b>36%</b>
<span style="color: #4682B4;">●</span>	Night	<b>398</b>	<b>29%</b>

# Speed Profile

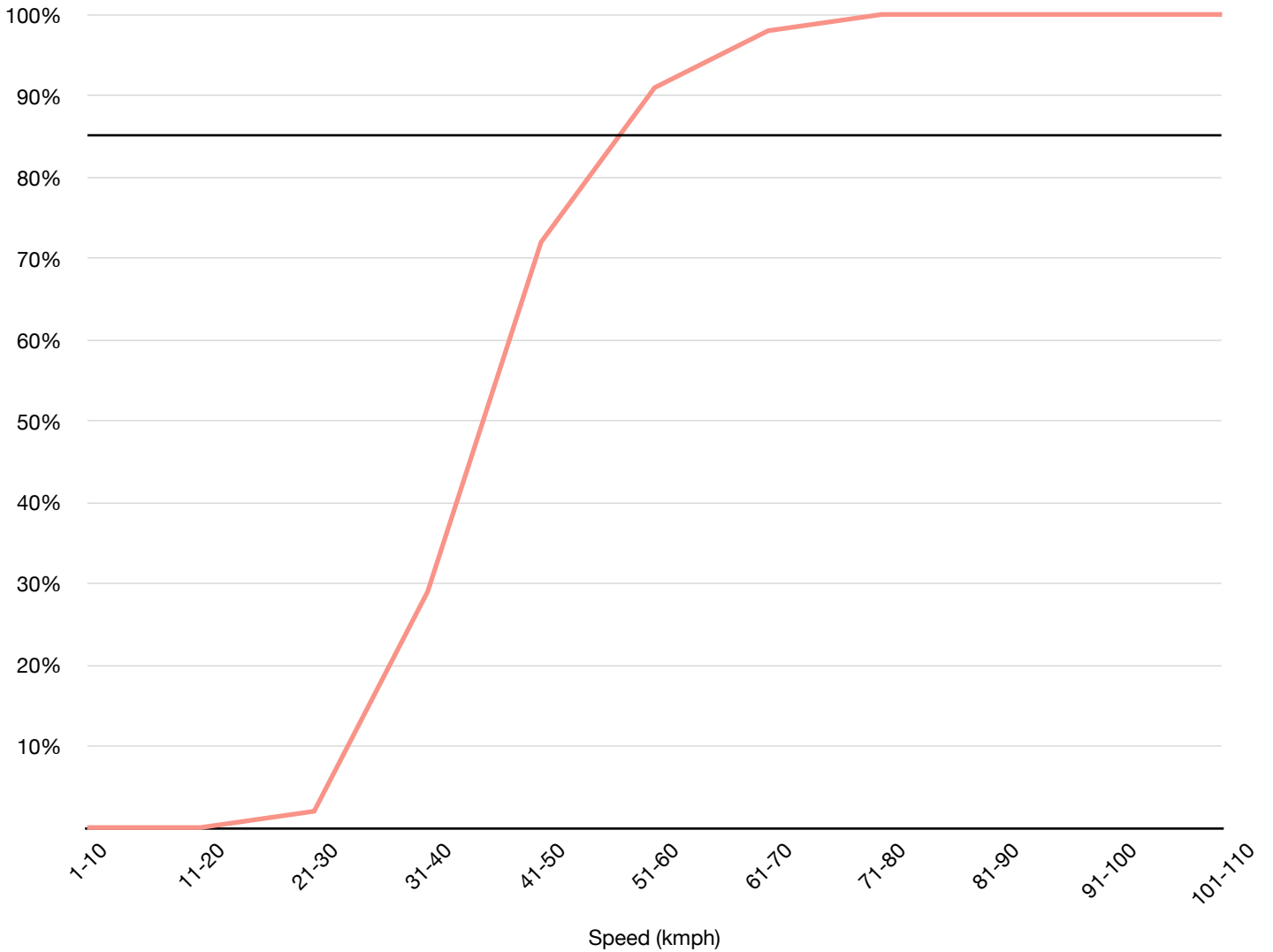
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 46-50 kmph. The highest number of vehicles were travelling at 44 kmph.

# Speed Curve

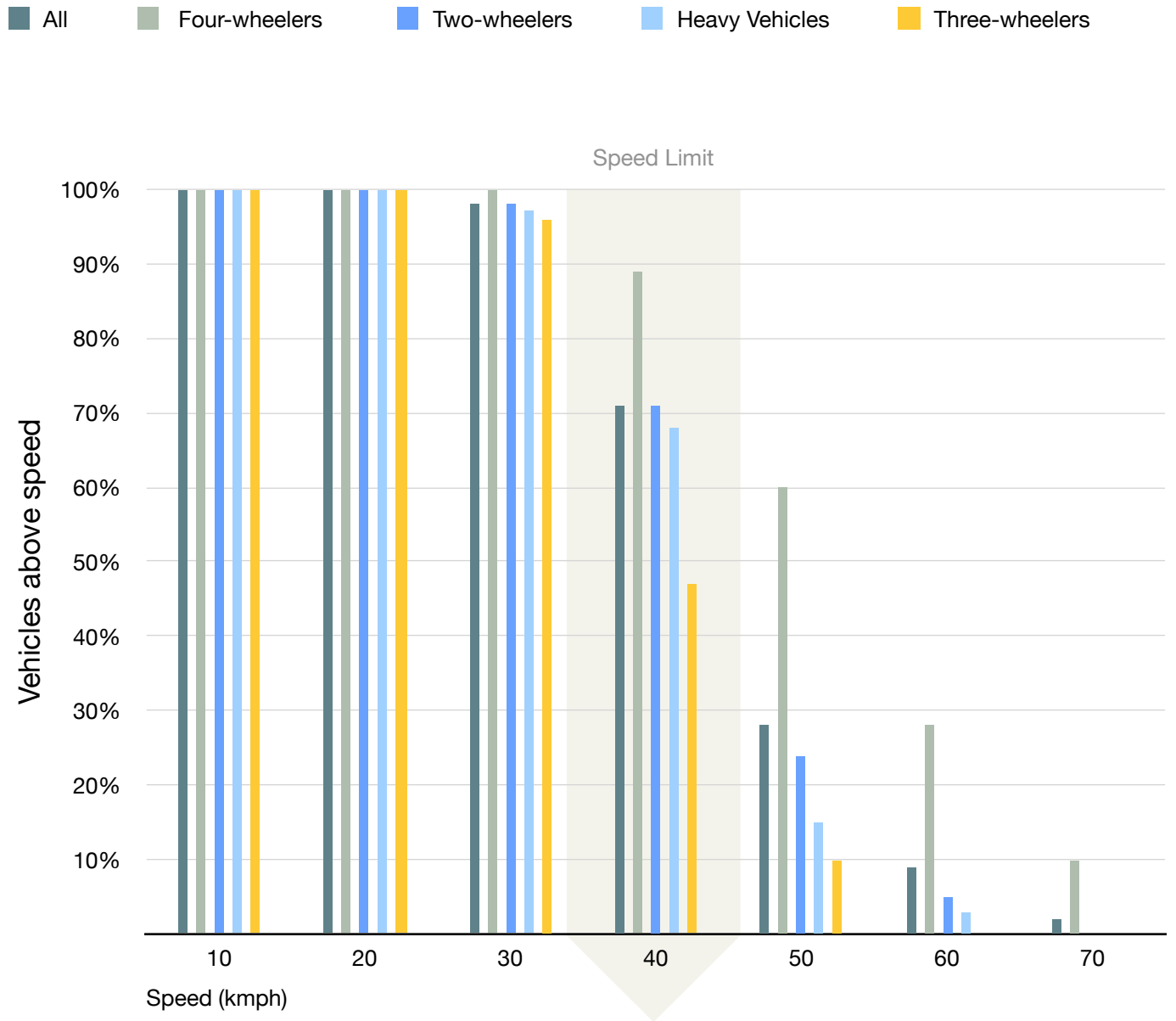
# Percent of vehicles below a speed range



The 85th percentile speed was 56 kmph. The maximum, i.e., 74% of vehicles were found to be travelling between 43 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

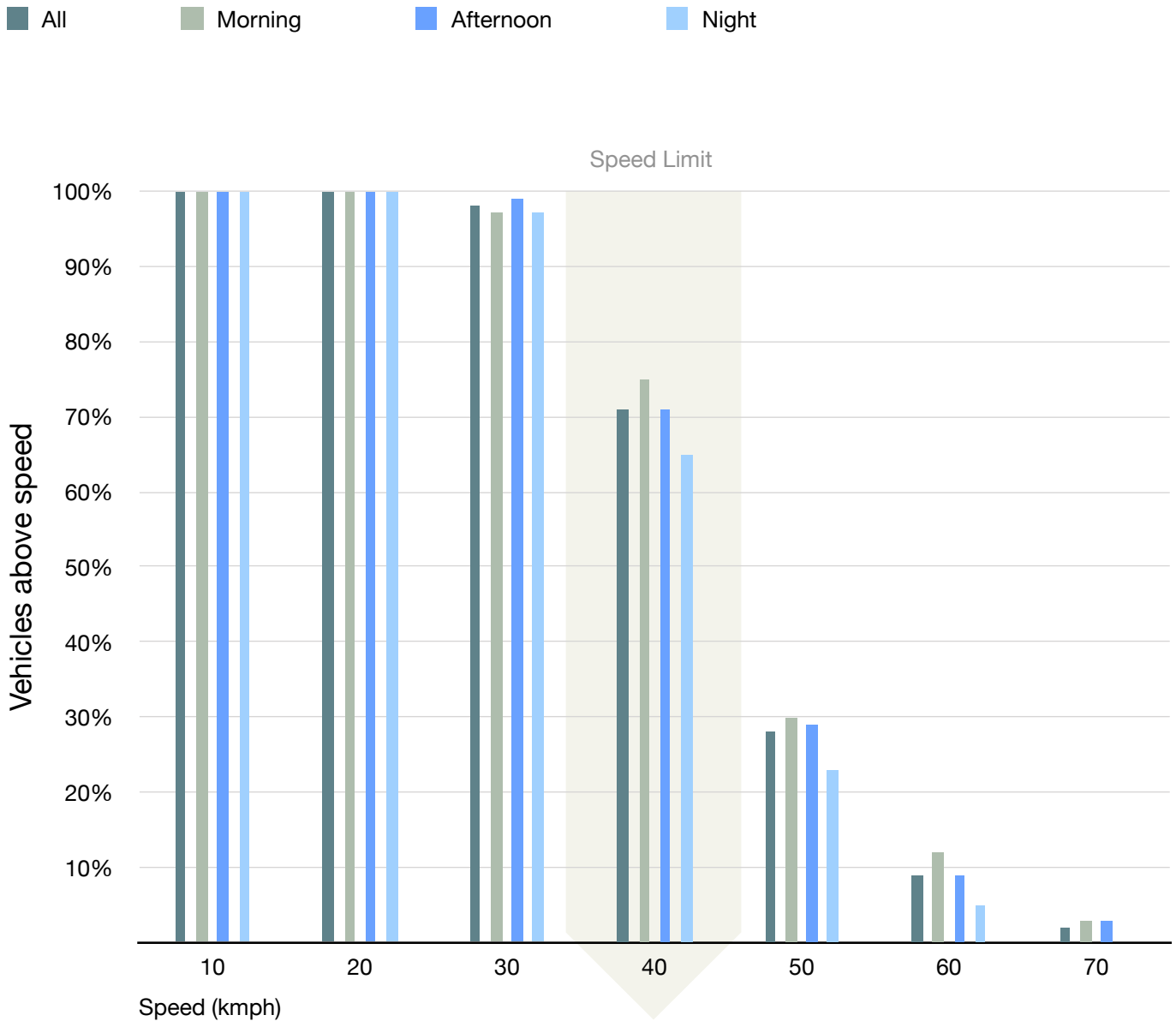


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	71%	89%	71%	68%	47%

We find that 71% vehicles exceed the designated speed limit. Four-wheeler (89%) violates rule the most.

# Speeding

## By time of day

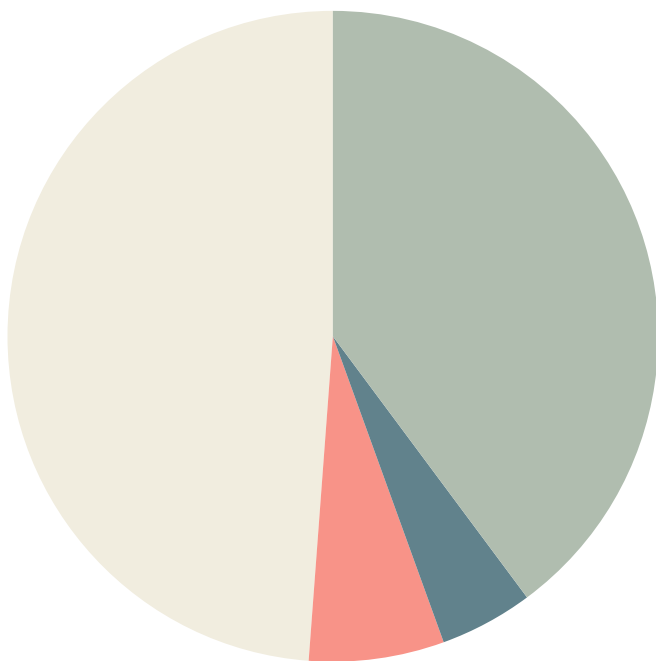


Speed limit	All	Morning	Afternoon	Night
40 kmph	71%	75%	71%	65%

We find that 75% in the morning violates the speed limit most.

## Survey Profile

1012 Vehicles

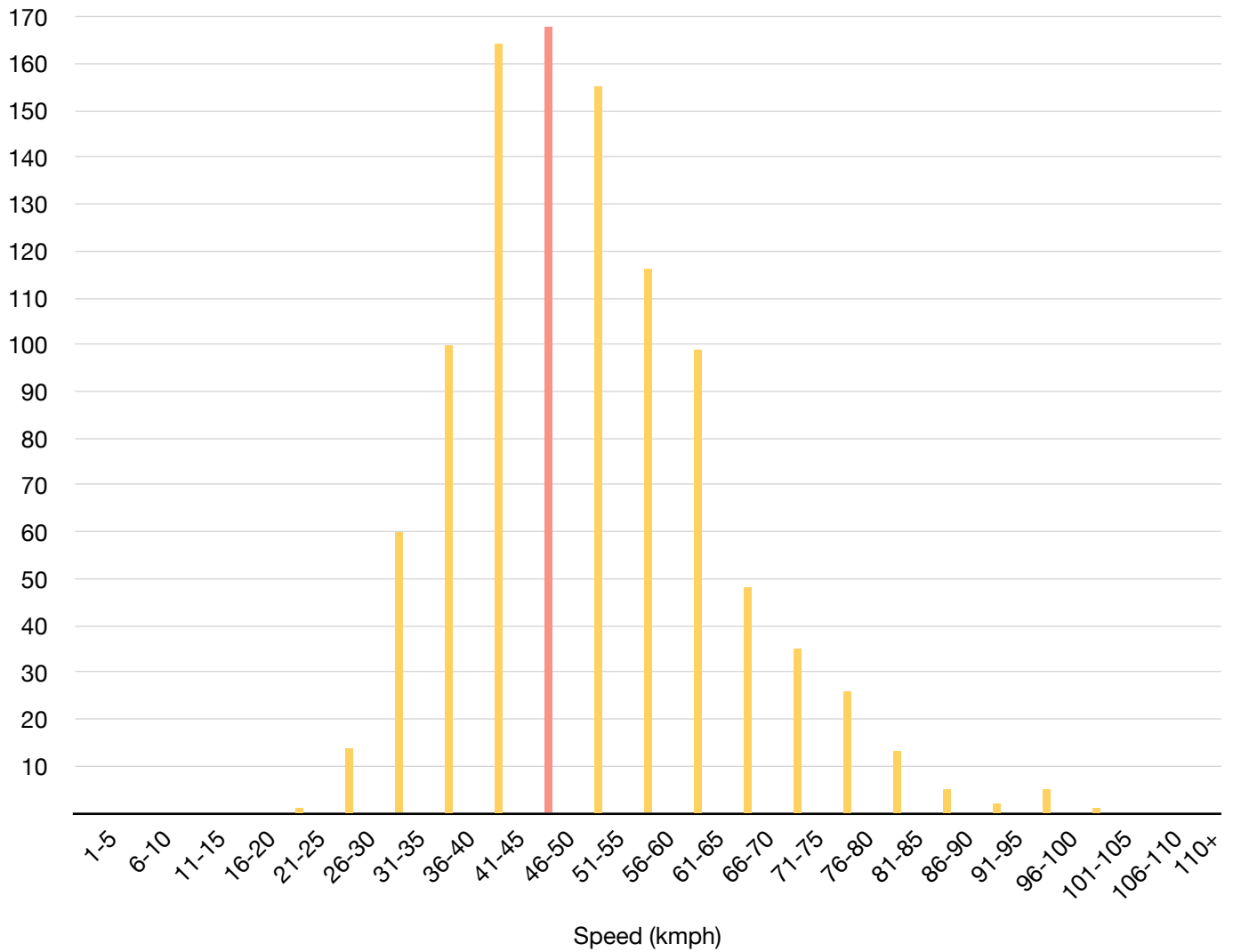


<span style="color: #808080;">●</span>	Four-Wheeler	<b>403</b>	<b>40%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>47</b>	<b>5%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>68</b>	<b>7%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>494</b>	<b>49%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>415</b>	<b>41%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>172</b>	<b>17%</b>
<span style="color: #4682B4;">●</span>	Night	<b>425</b>	<b>42%</b>

# Speed Profile

# Number of vehicles

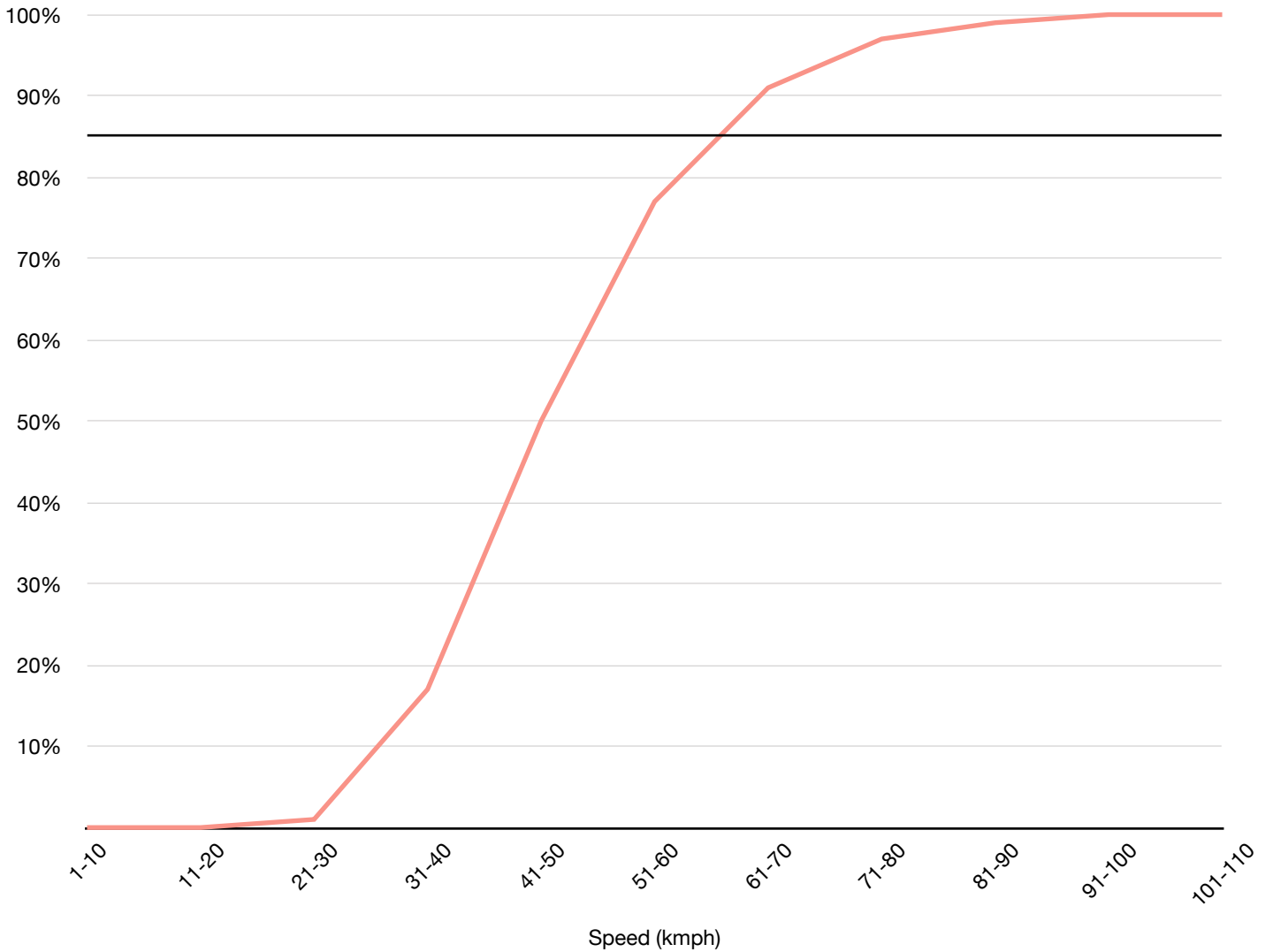


The maximum number of vehicles were travelling between 46-50 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 46 kmph.



# Speed Curve

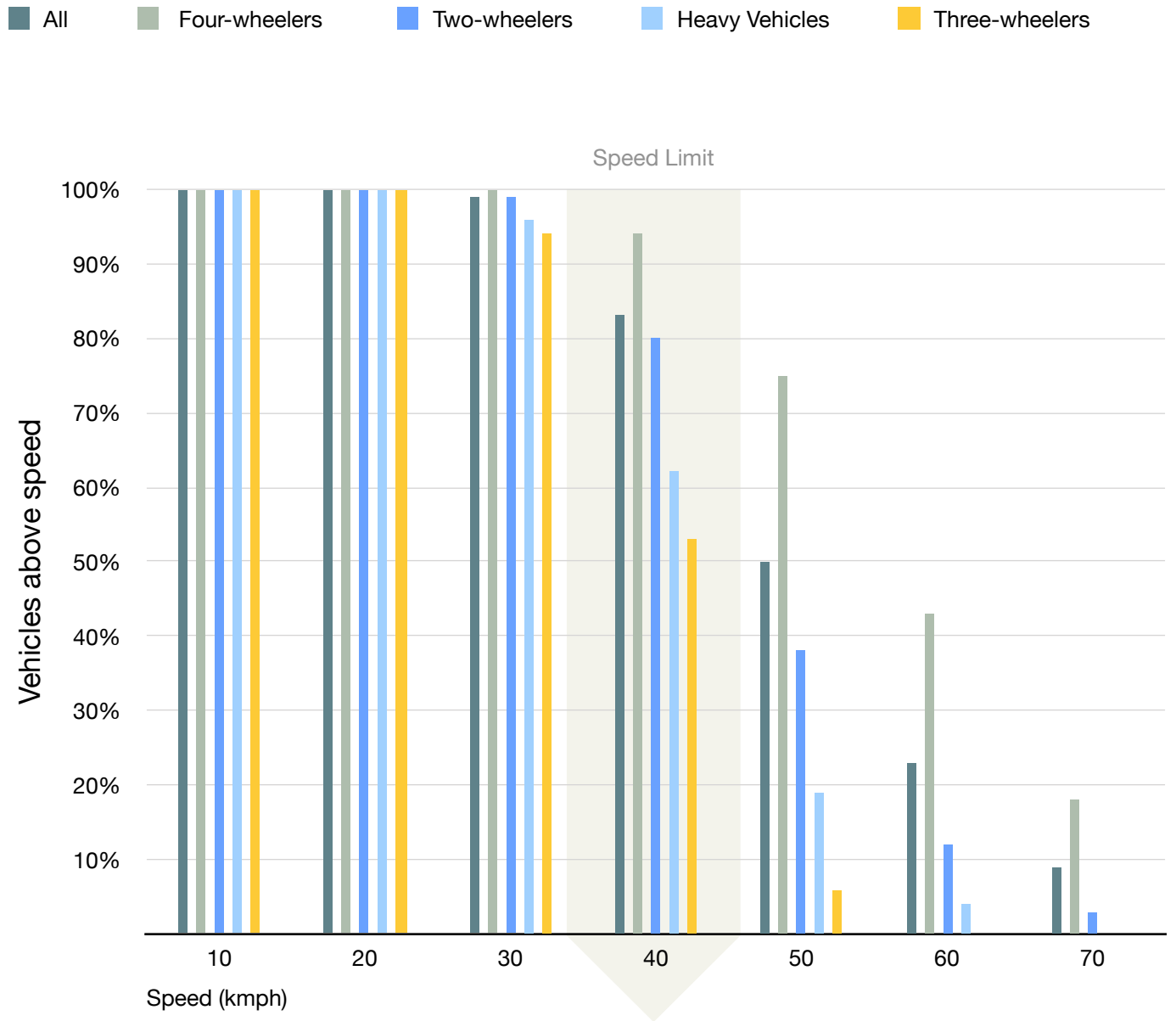
# Percent of vehicles below a speed range



The 85th percentile speed was 65 kmph. The maximum, i.e., 61% of vehicles were found to be travelling between 50 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

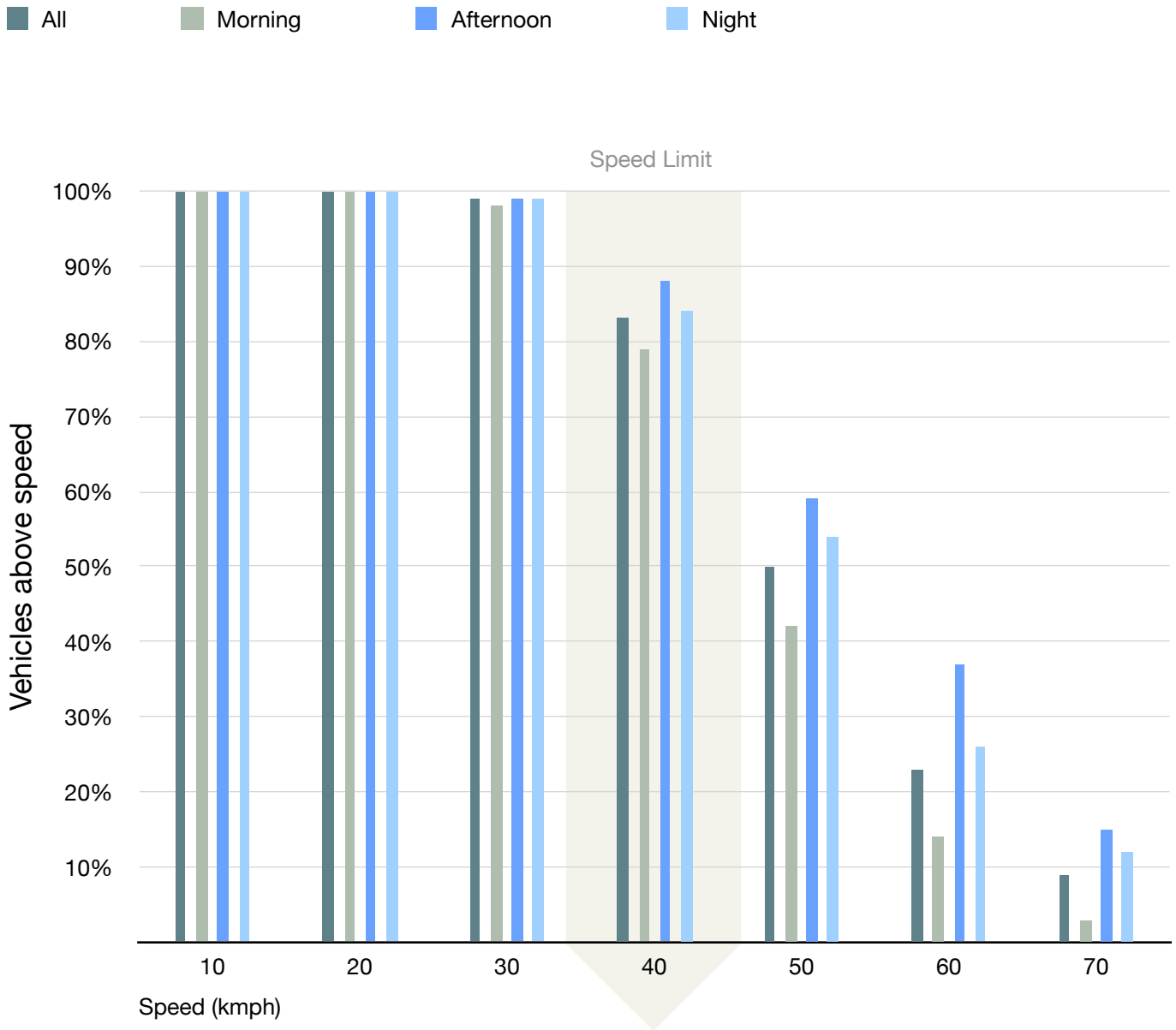


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	83%	94%	80%	62%	53%

We find that 83% vehicles exceed the designated speed limit. A very high (94%) of 4-wheelers exceed the speed limit.

# Speeding

## By time of day

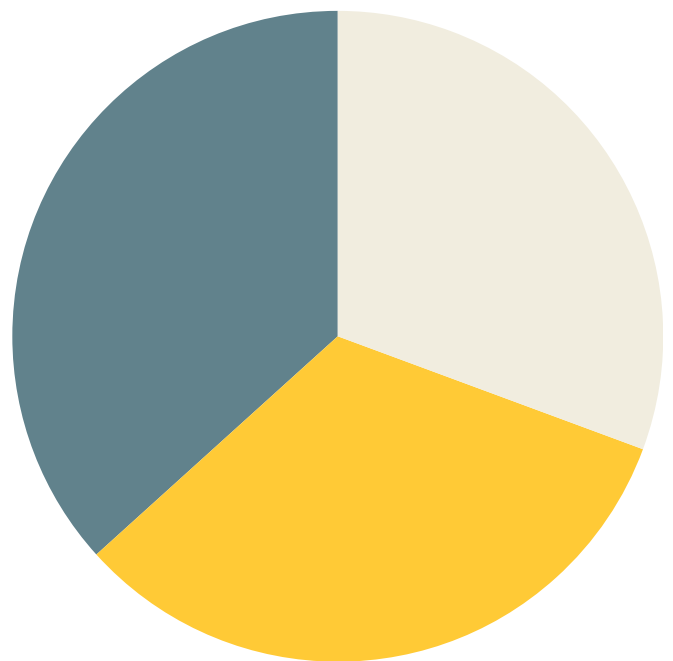
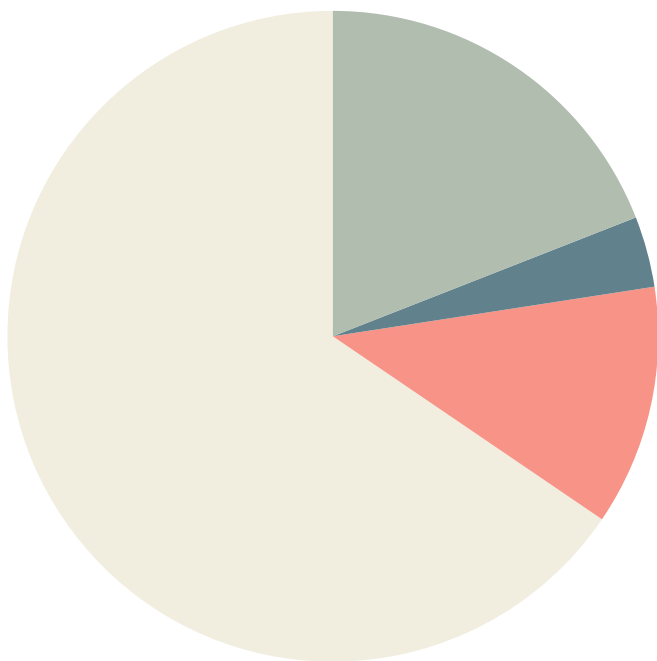


Speed limit	All	Morning	Afternoon	Night
40 kmph	83%	79%	88%	84%





We find that surprisingly, speed violation occurs most in the afternoon which is 88%.

## Survey Profile

1139 Vehicles






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	Four-Wheeler	<b>217</b>	<b>19%</b>
	Heavy Vehicle	<b>40</b>	<b>4%</b>
	Three-Wheeler	<b>136</b>	<b>12%</b>
	Two-Wheeler	<b>746</b>	<b>65%</b>

---

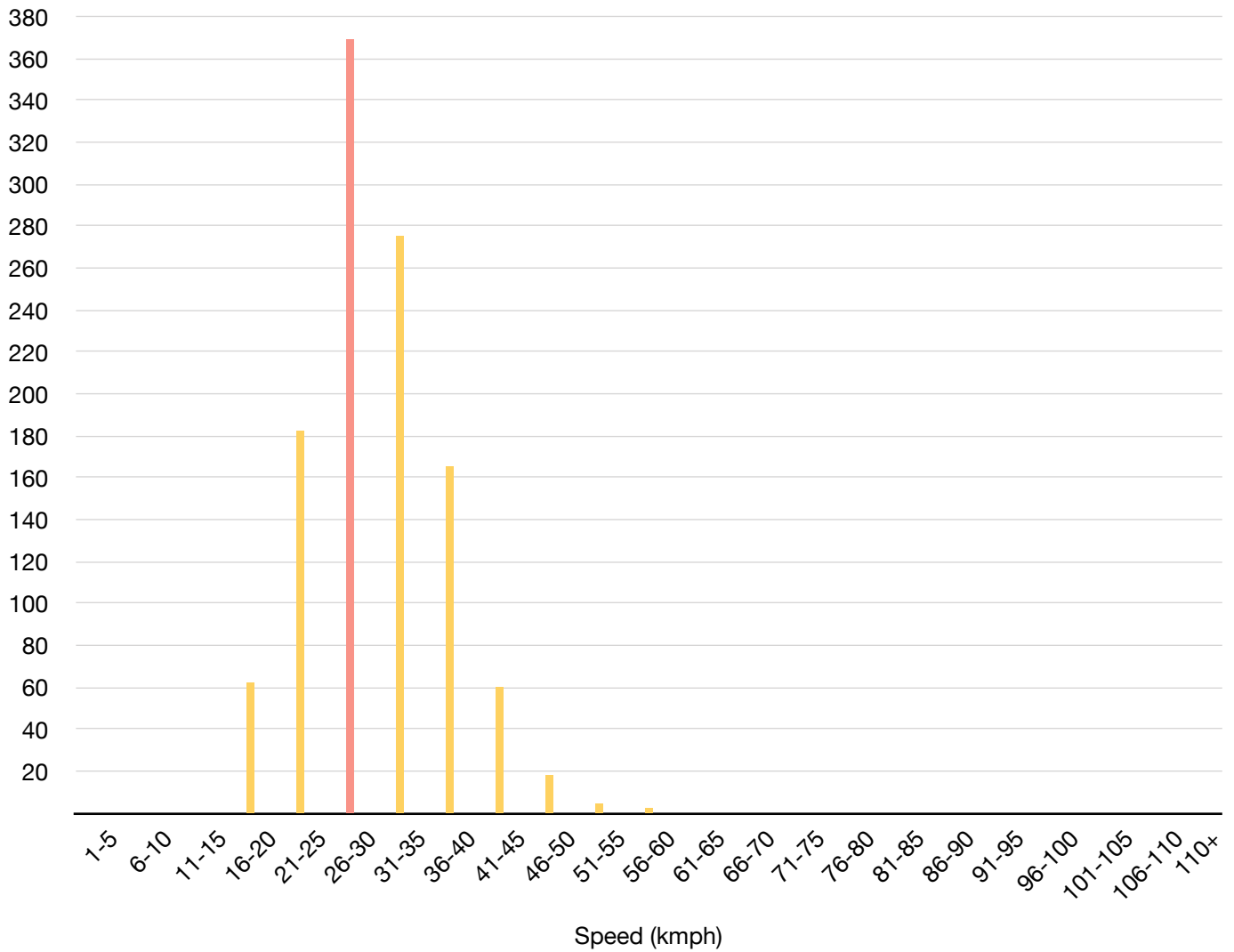
---

	Morning	<b>349</b>	<b>31%</b>
	Afternoon	<b>372</b>	<b>33%</b>
	Night	<b>418</b>	<b>37%</b>

---

# Speed Profile

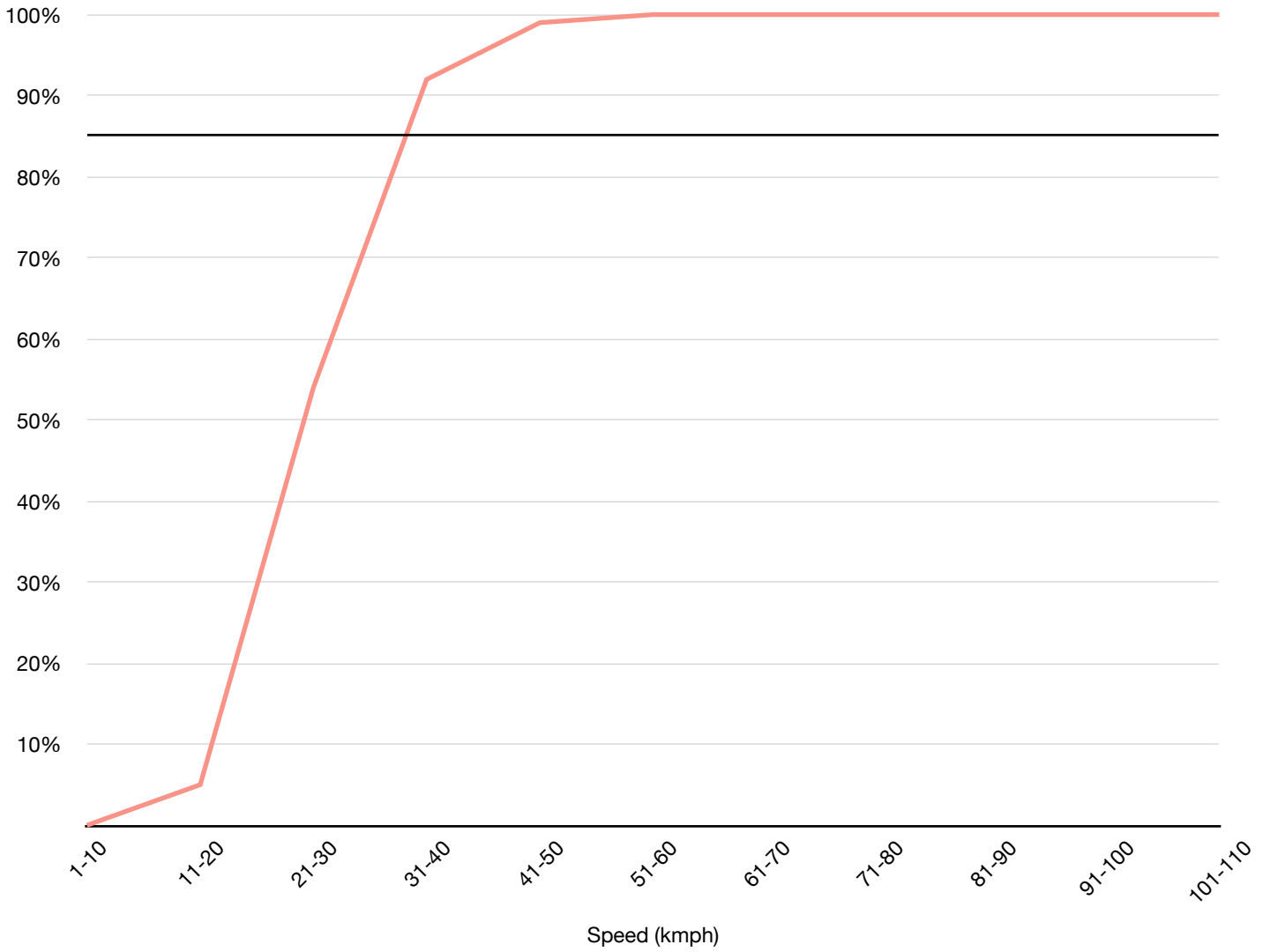
# Number of vehicles



The maximum number of vehicles were travelling between 26-30 kmph, followed by 31-35 kmph. The highest number of vehicles were travelling at 29 kmph.

# Speed Curve

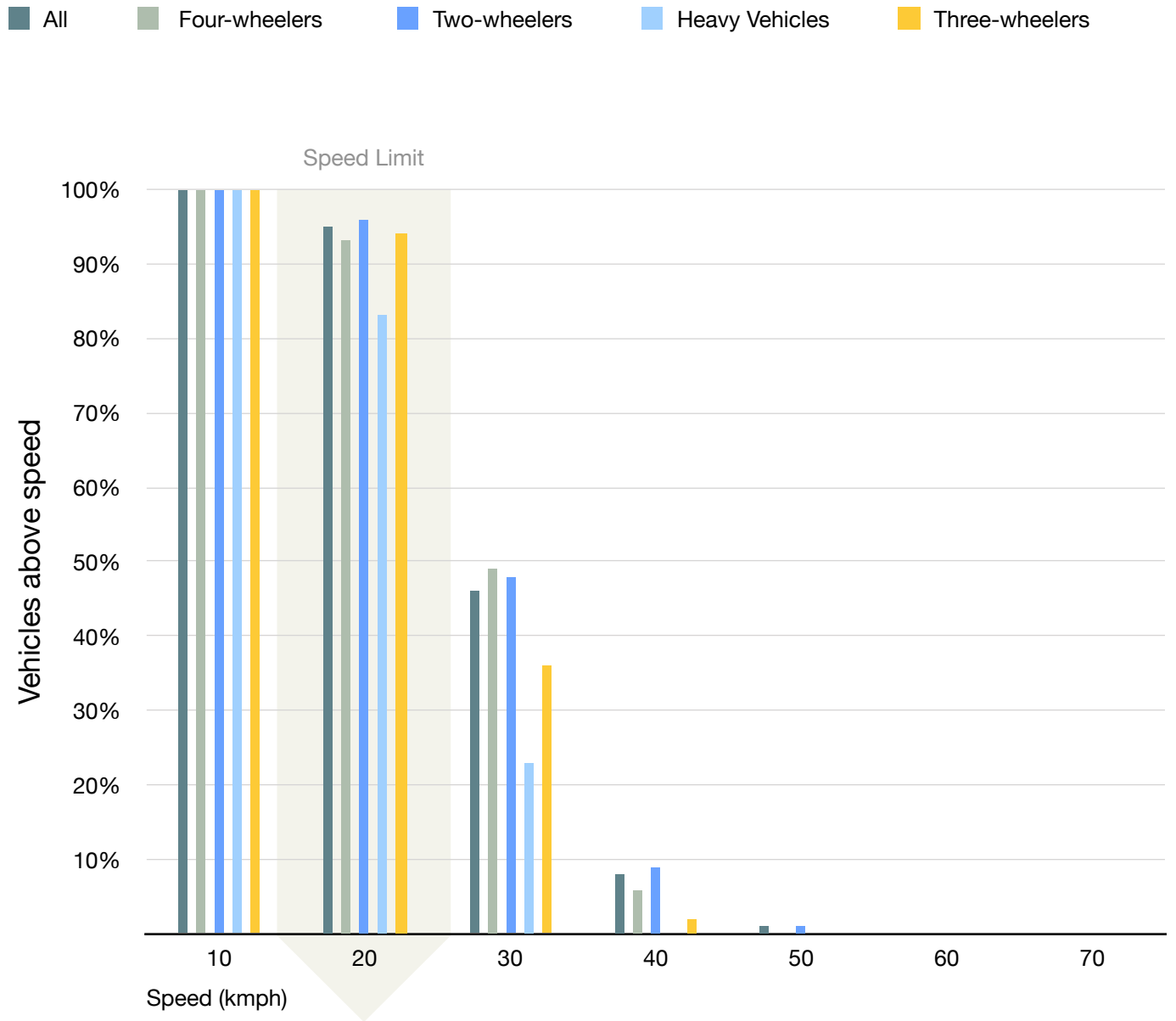
# Percent of vehicles below a speed range



The 85th percentile speed was 38 kmph. The maximum, i.e., 87% of vehicles were found to be travelling between 29 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

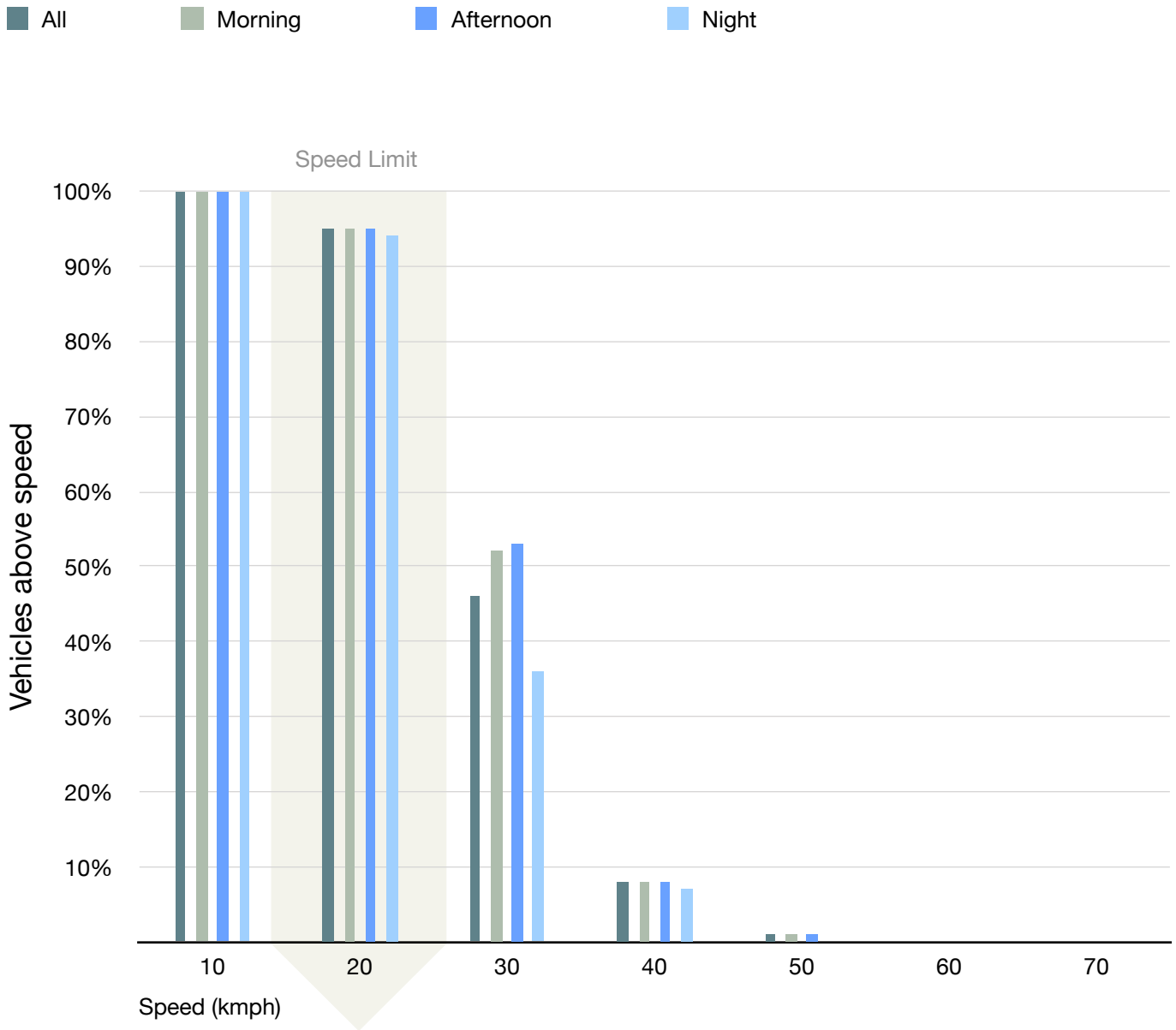


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
20 kmph	95%	93%	96%	83%	94%

We find that 95% vehicles exceed the designated speed limit. However, we find that at 30 kmph, far more vehicles exceed the speed.

# Speeding

## By time of day



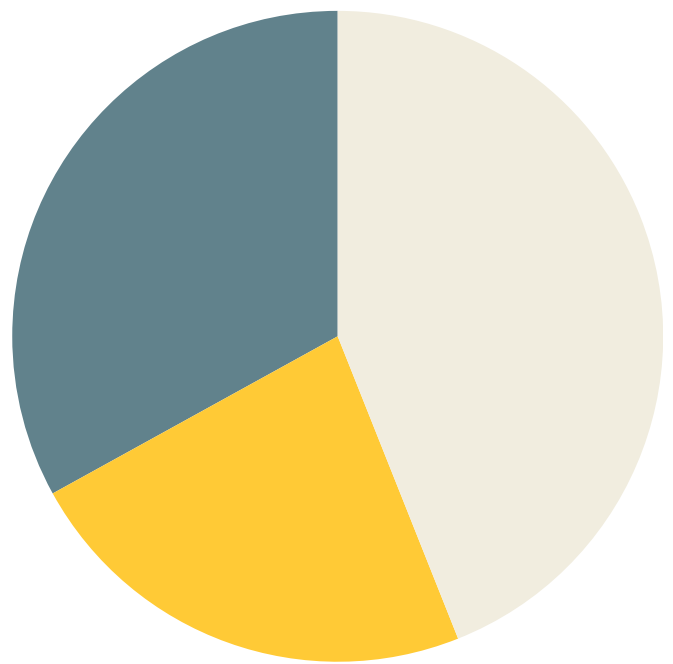
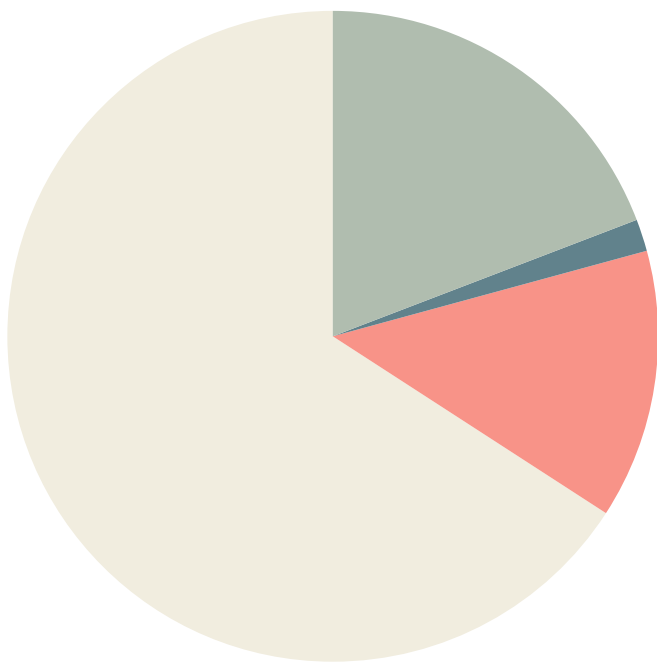
Speed limit	All	Morning	Afternoon	Night
20 kmph	95%	95%	95%	94%

We find that at Morning and Afternoon speeds tend to be higher, with 52%-53% of vehicles going above 20 kmph as compared to 36% in the night.



## Survey Profile

1069 Vehicles

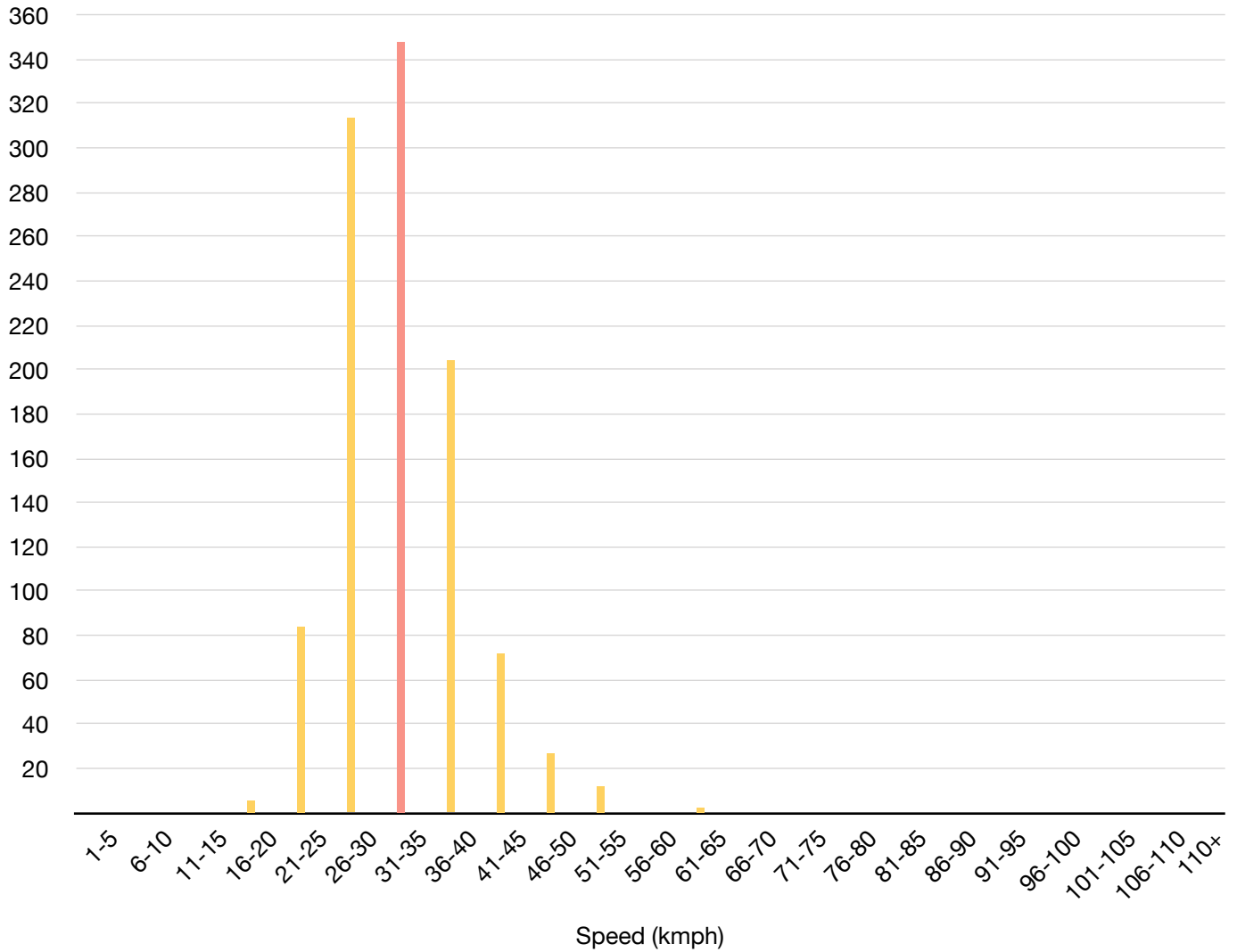


<span style="color: #808080;">●</span>	Four-Wheeler	<b>205</b>	<b>19%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>17</b>	<b>2%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>143</b>	<b>13%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>704</b>	<b>66%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>470</b>	<b>44%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>246</b>	<b>23%</b>
<span style="color: #4682B4;">●</span>	Night	<b>353</b>	<b>33%</b>

# Speed Profile

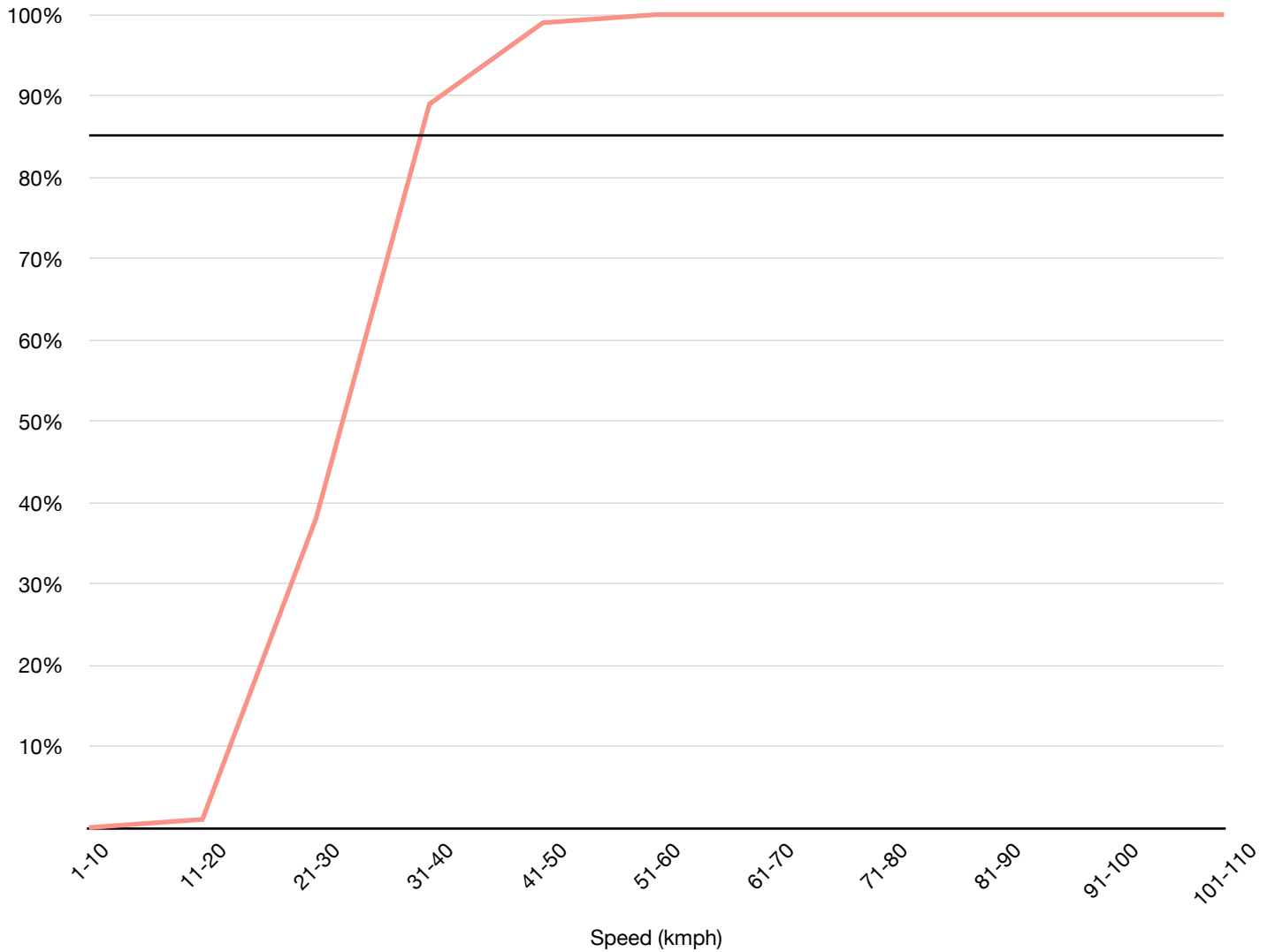
# Number of vehicles



The maximum number of vehicles were travelling between 26-30 kmph, followed by 31-35 kmph. The highest number of vehicles were travelling at 31 kmph.

# Speed Curve

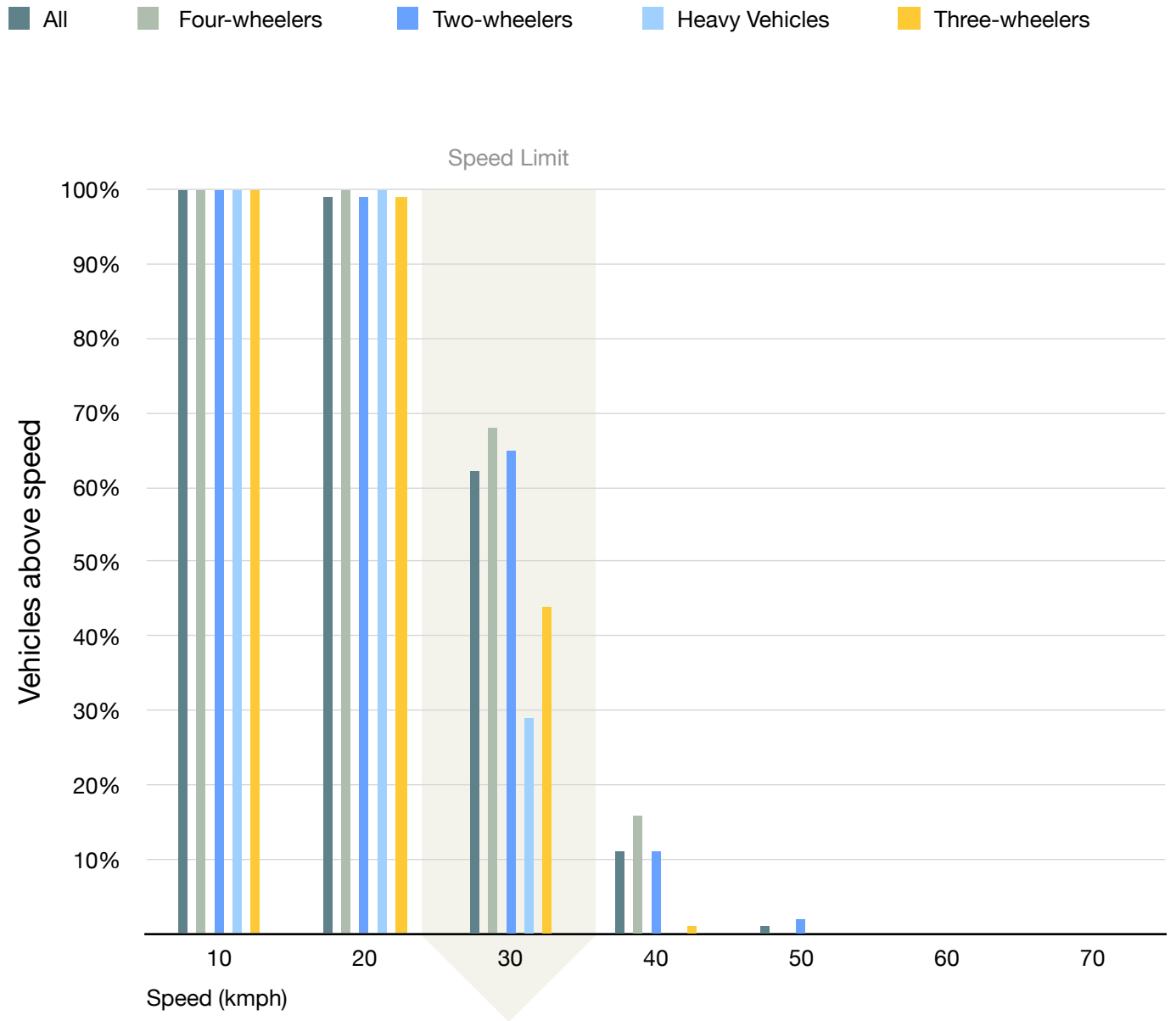
# Percent of vehicles below a speed range



The 85th percentile speed was 40 kmph. The maximum, i.e., 91% of vehicles were found to be travelling between 32 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

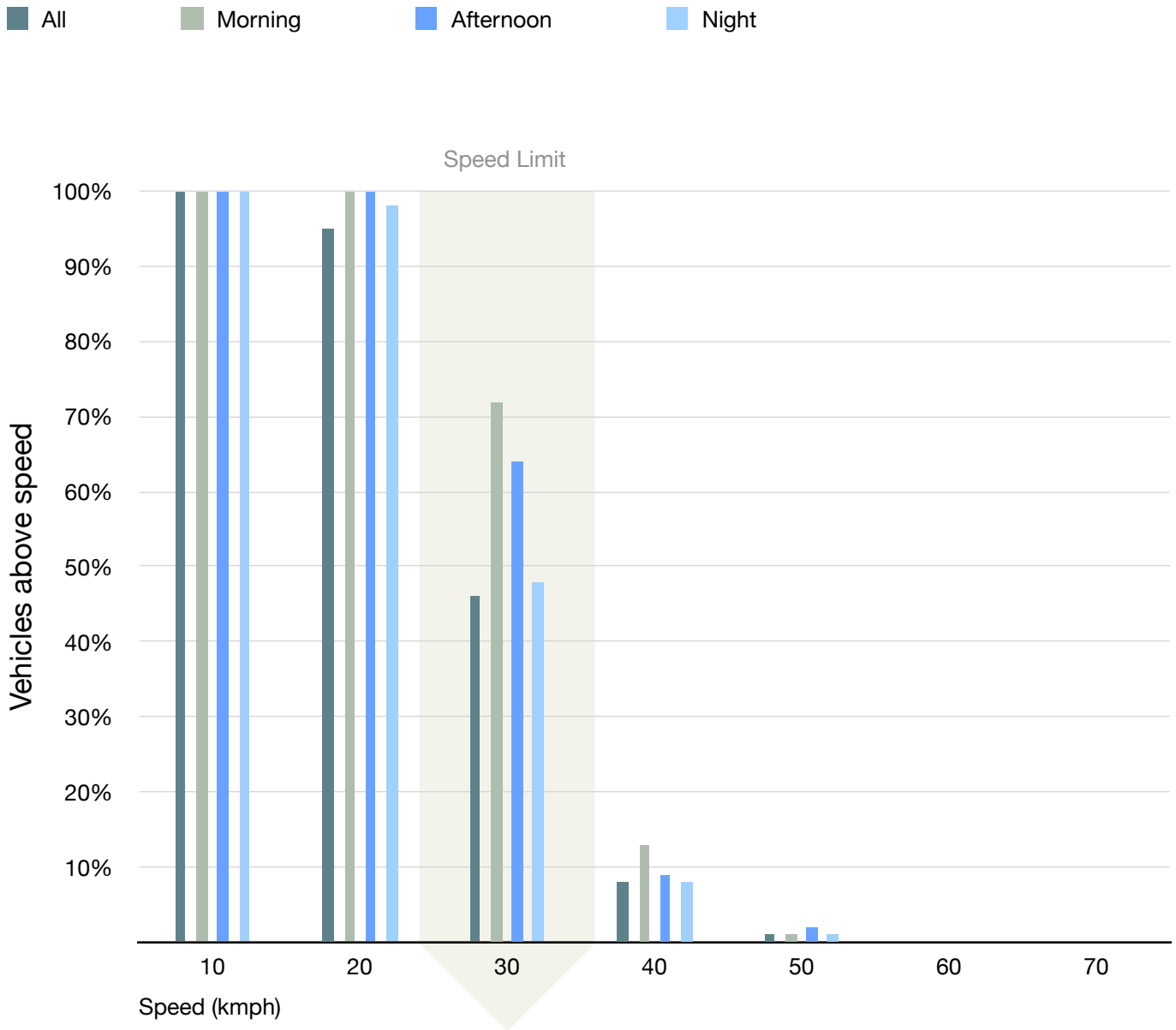


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	62%	68%	65%	29%	44%

We find that 62% vehicles exceed the designated speed limit.

# Speeding

## By time of day

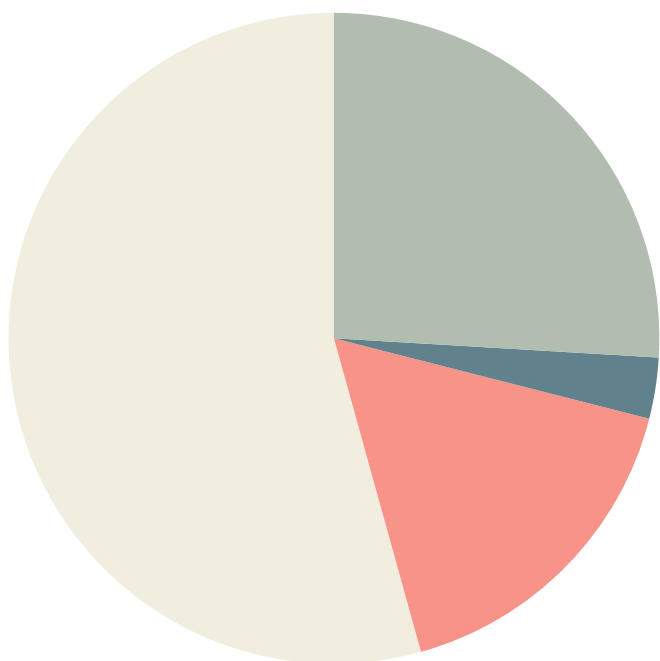


Speed limit	All	Morning	Afternoon	Night
30 kmph	46%	72%	64%	48%

We find that at Morning and Afternoon speeds tend to be higher, with 72%/64% of vehicles going above 30 kmph as compared to 48% in the night.

Survey Profile

1484 Vehicles

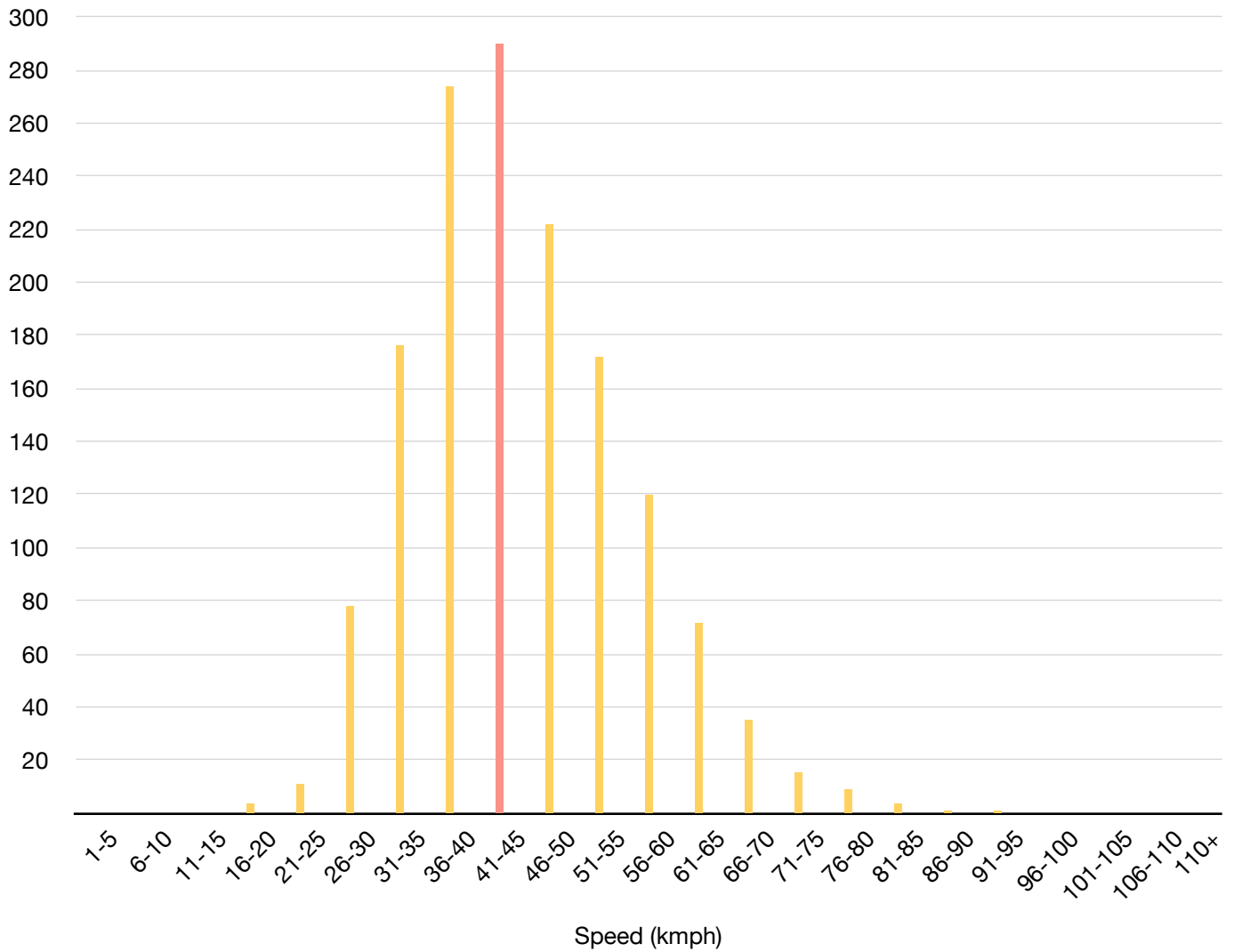


<span style="color: #808080;">●</span> Four-Wheeler	<b>385</b>	<b>26%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>45</b>	<b>3%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>248</b>	<b>17%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>806</b>	<b>54%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>523</b>	<b>35%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>495</b>	<b>33%</b>
<span style="color: #4682B4;">●</span> Night	<b>466</b>	<b>31%</b>

# Speed Profile

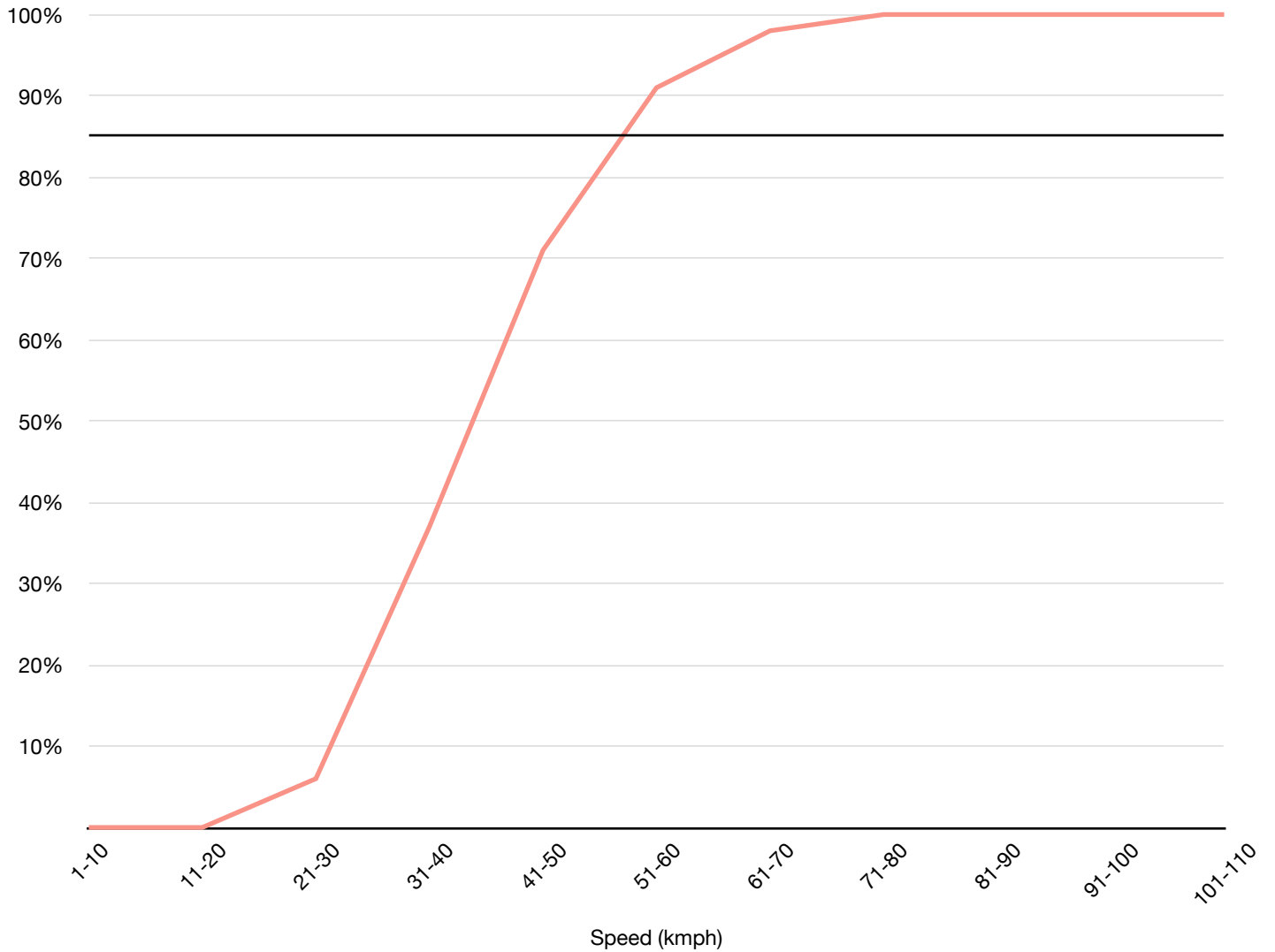
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 40 kmph.

# Speed Curve

# Percent of vehicles below a speed range

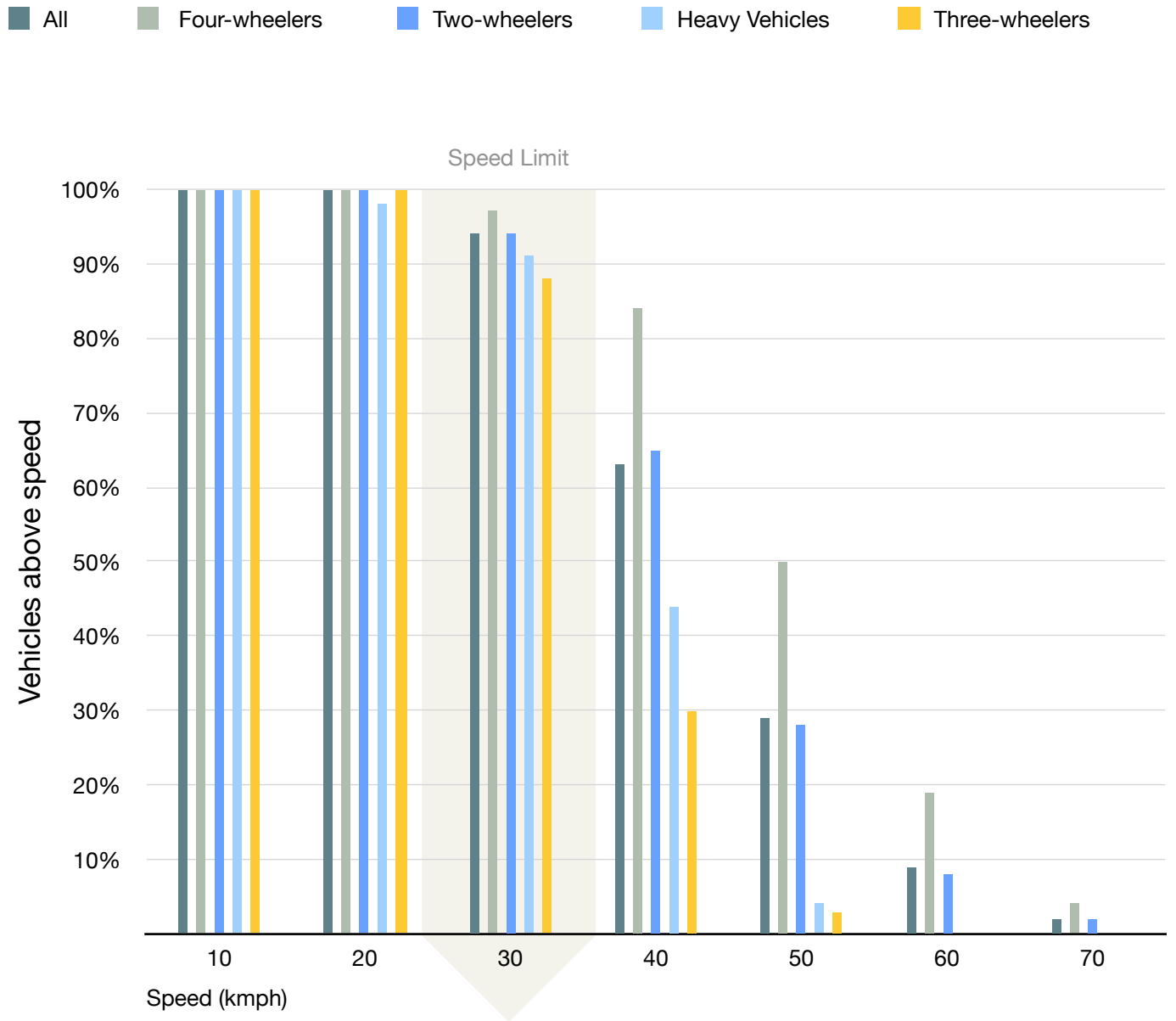


The 85th percentile speed was 57 kmph. The maximum, i.e., 66% of vehicles were found to be travelling between 42 kmph  $\pm$  10 kmph.



# Speeding

## By type of vehicle

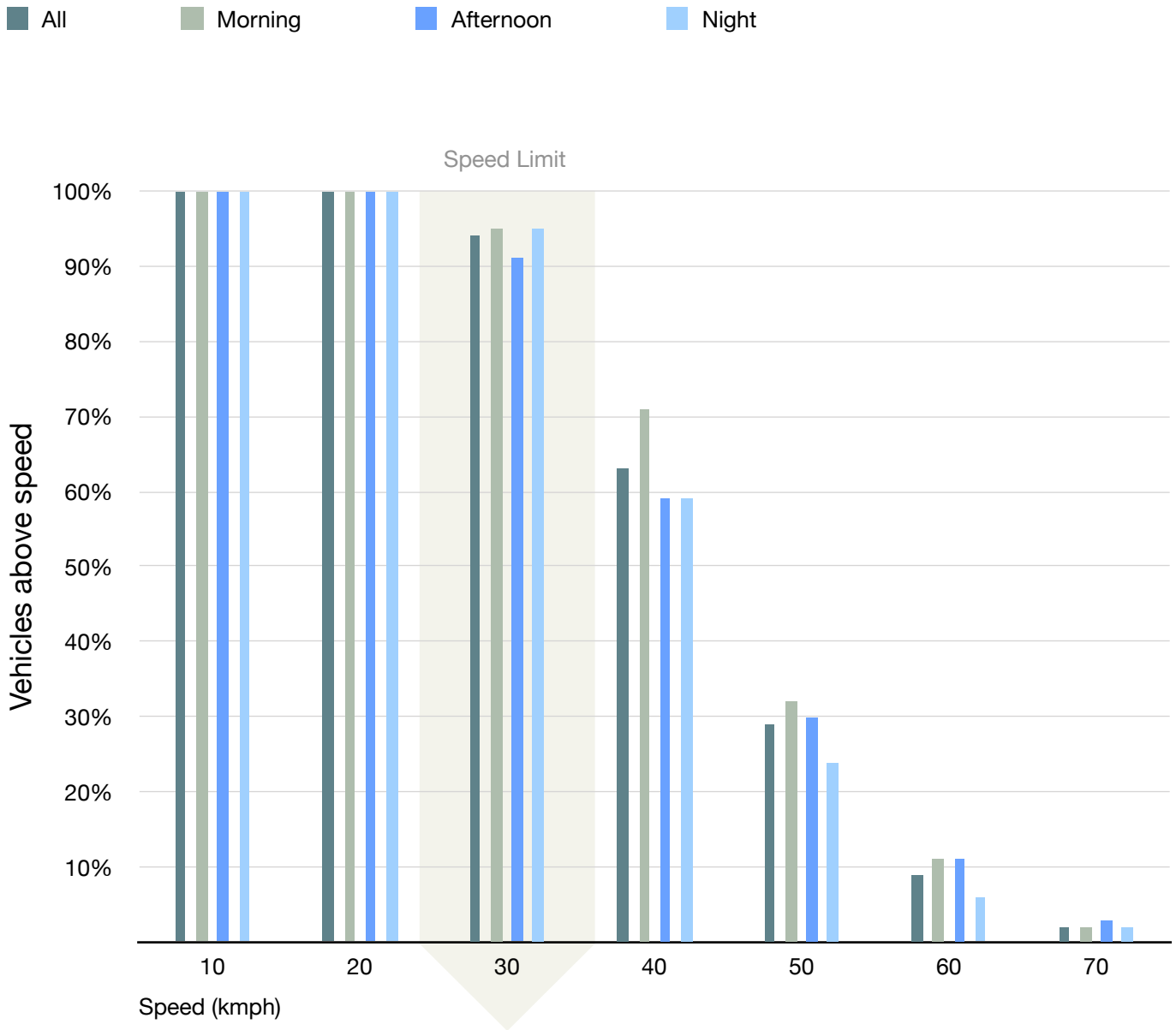


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	94%	97%	94%	91%	88%

We find that 94% vehicles exceed the designated speed limit.

# Speeding

## By time of day

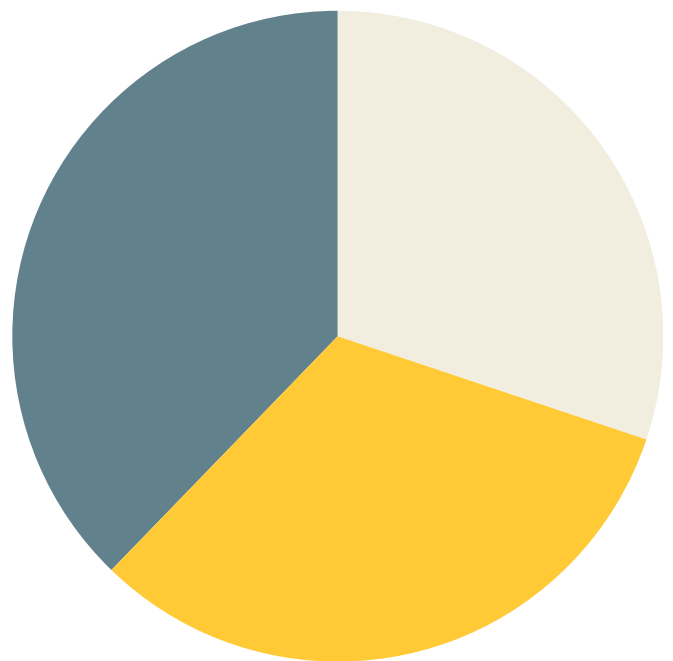
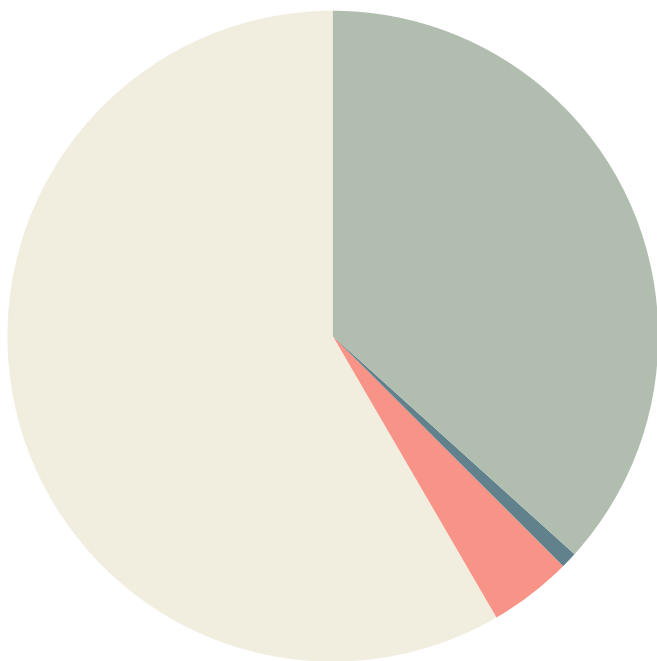


Speed limit	All	Morning	Afternoon	Night
30 kmph	94%	95%	91%	95%

We find that speed violations occur almost throughout the day with 71% of vehicles going above 40 kmph in the morning as compared to 59% in the afternoon and night.

## Survey Profile

1115 Vehicles

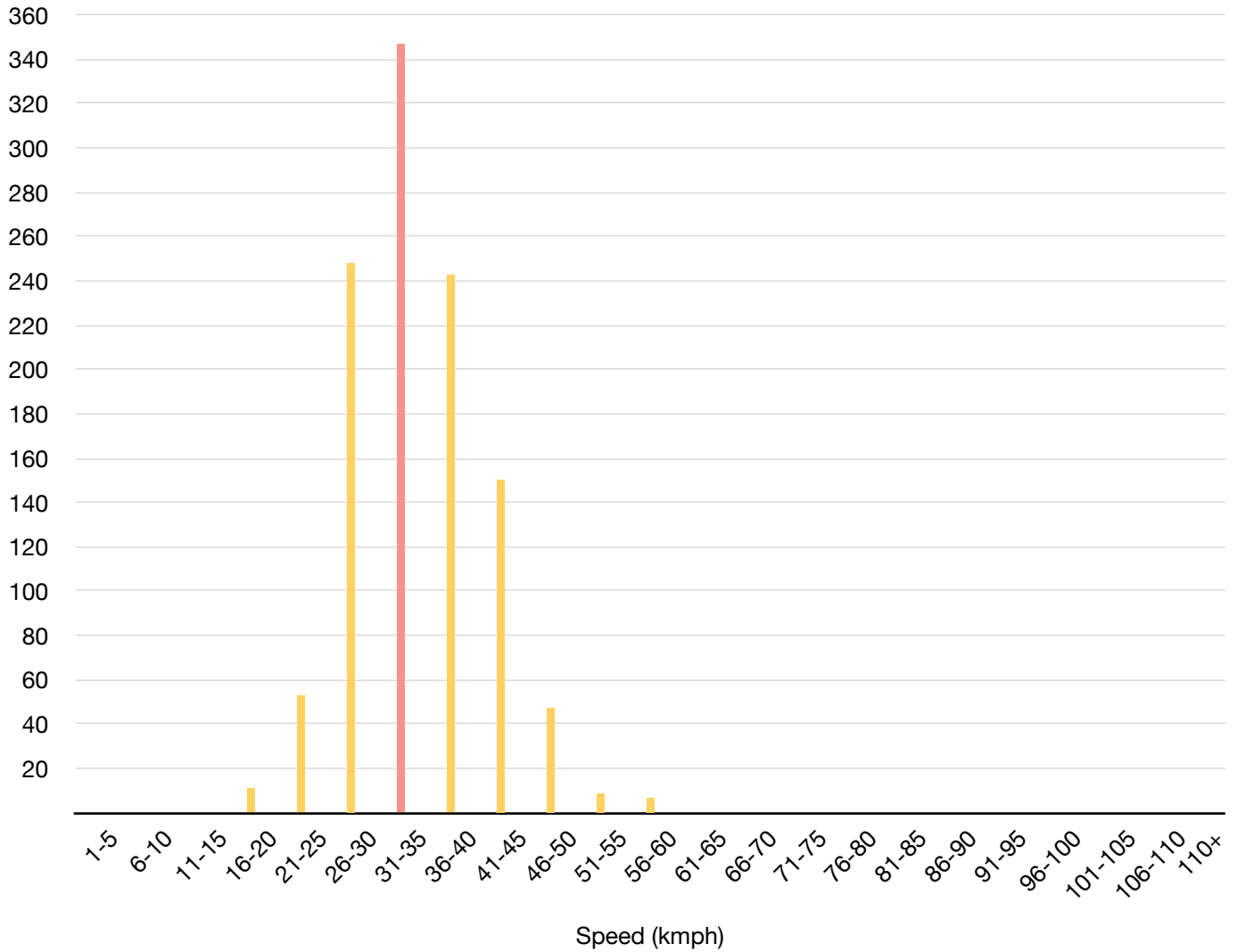


●	Four-Wheeler	409	37%
●	Heavy Vehicle	9	1%
●	Three-Wheeler	46	4%
●	Two-Wheeler	651	58%

●	Morning	336	30%
●	Afternoon	358	32%
●	Night	421	38%

# Speed Profile

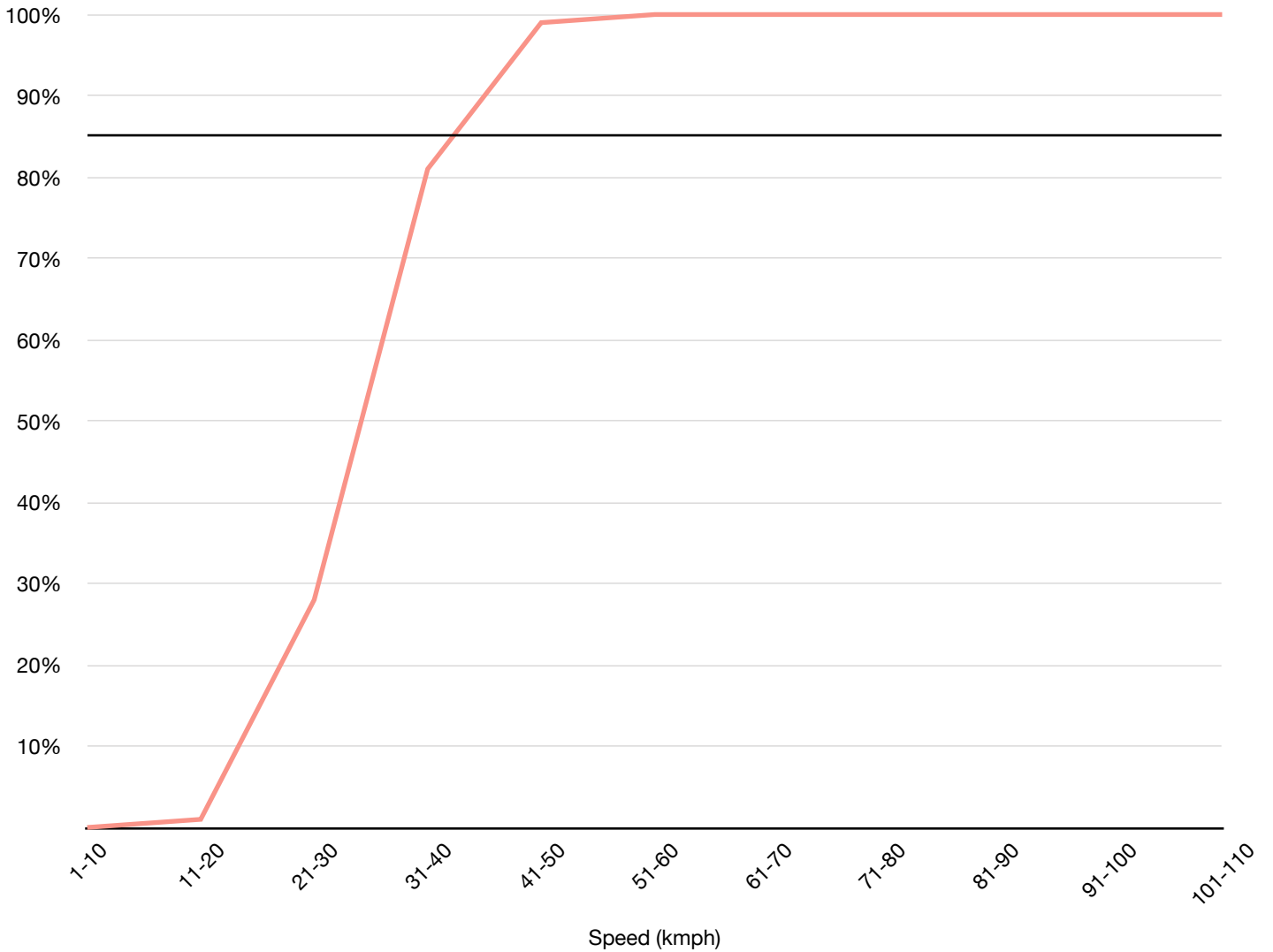
# Number of vehicles



The maximum number of vehicles were travelling between 31-35 kmph.  
The highest number of vehicles were travelling at 34 kmph.

# Speed Curve

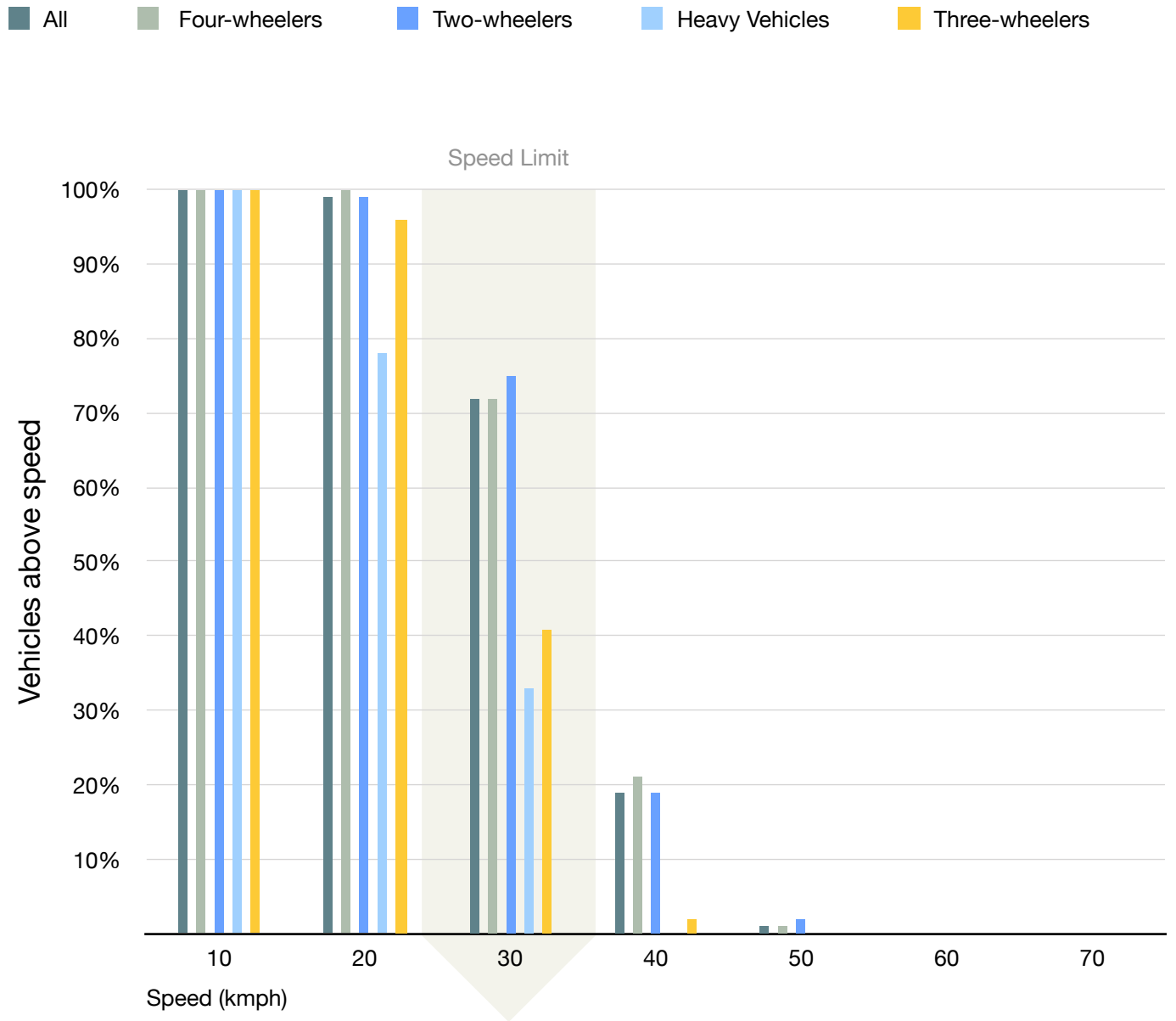
# Percent of vehicles below a speed range



The 85th percentile speed was 42 kmph. The maximum, i.e., 89% of vehicles were found to be travelling between 35 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

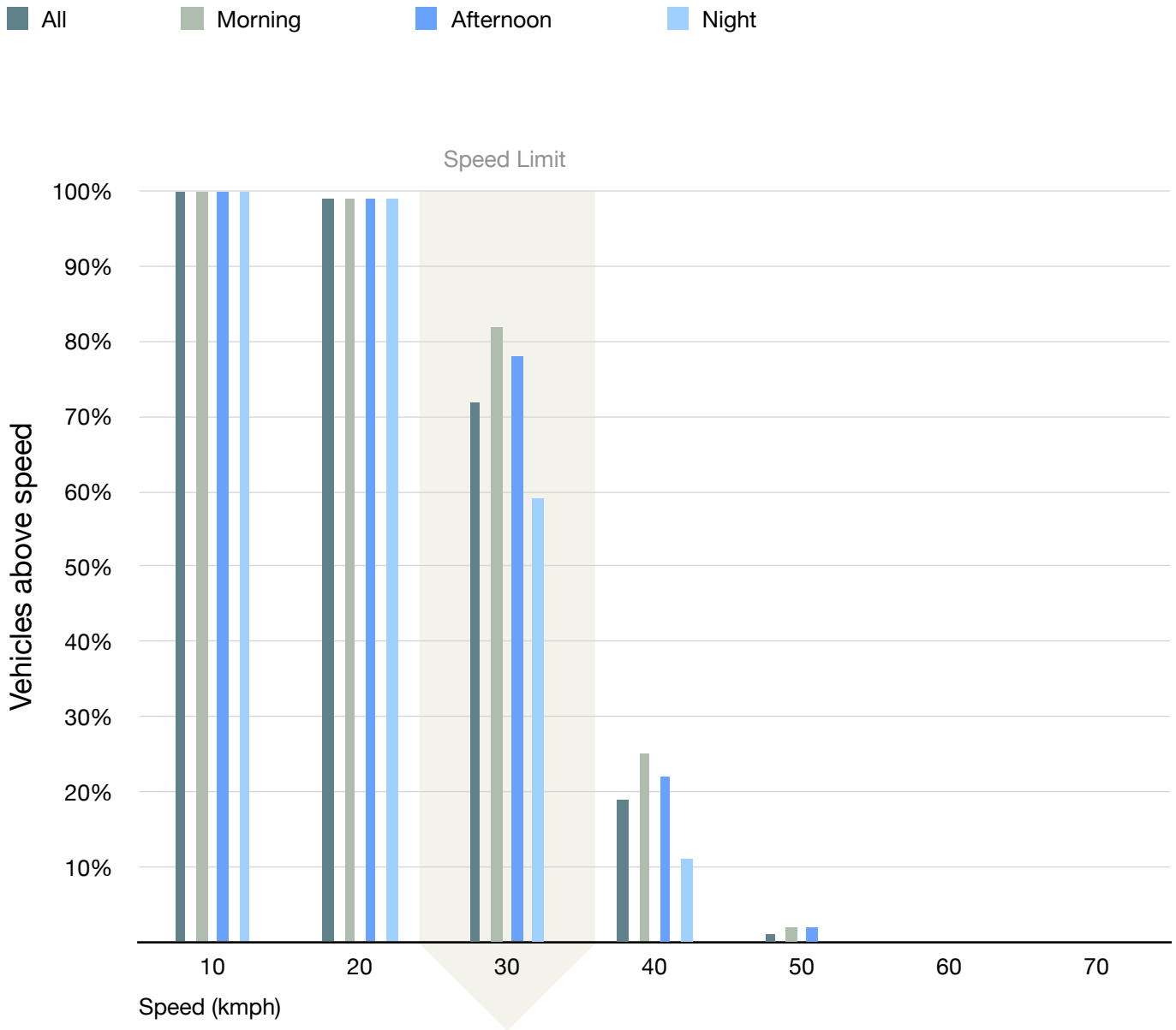


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	72%	72%	75%	33%	41%

We find that 94% vehicles exceed the designated speed limit.

# Speeding

## By time of day



Speed limit	All	Morning	Afternoon	Night
30 kmph	72%	82%	78%	59%

We find that at Morning speeds tend to be higher with 82%.

# Nagpur

DECEMBER 2020

The survey was conducted on 8 roads in the city of Nagpur

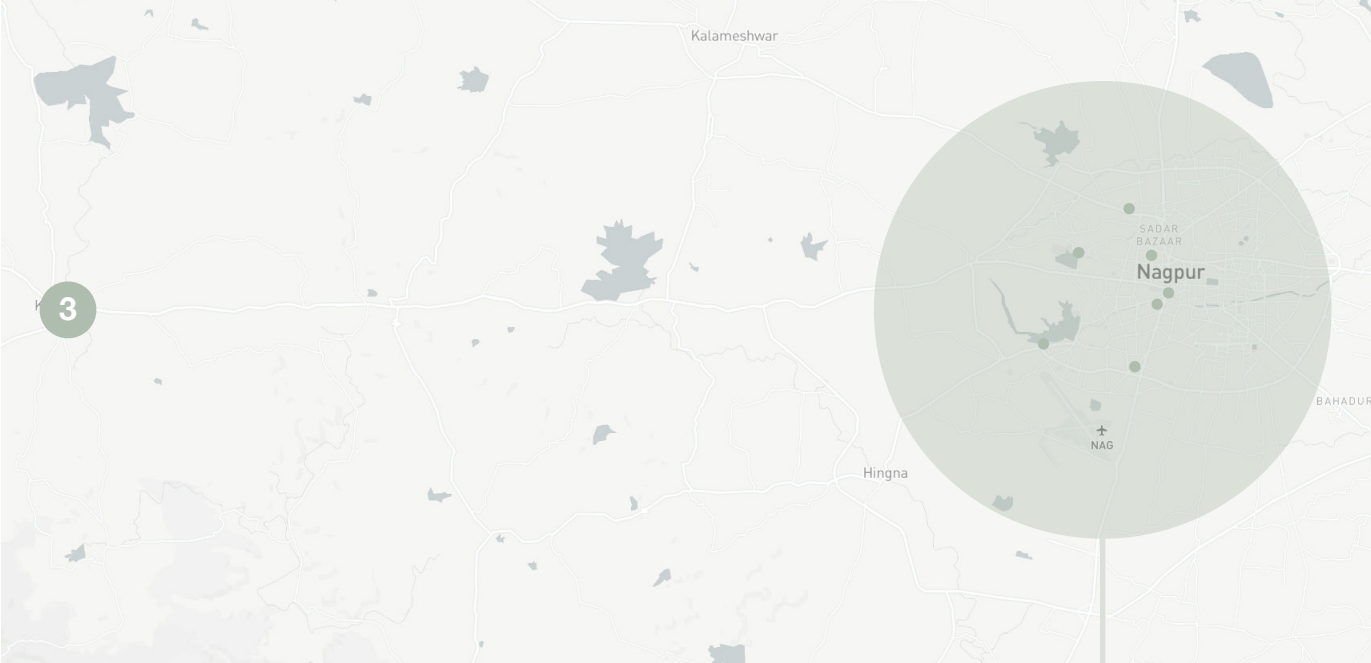
#	Road	No. Of vehicles surveyed	Survey Location	Posted Speed Limit (kmph)
1	Nagpur High court road	945	Akashvani Chowk, Civil Lines	35
2	Nagpur Central Jail	945	Wardha Road, Nagpur	20* / 30
3	Nagpur Amravati road	945	Amaravati Road, Nagpur	35
4	Nagpur Maharaja baug	945	Lokmat Suare, Ramdaspath	35
5	Nagpur Road road	945	Chhatrapati Chowk, Nagpur	35
6	Nagpur Hingna road	945	Parsodi, Hingana Road	35
7	Hingna road T Point	945	Futula Lake Road	35
8	Nagpur Raj Bhavan	945	Katol Road Venuka Wasim Road	30
	<b>Total</b>	<b>7560</b>		

# - while more vehicles were surveyed on the road, it was decided to analyse data for 945 vehicles on each road, 315 each for morning, afternoon and night

\* - (S1/S2) the designated speed is S1, but at such low speed limits all (100%) vehicles are found in violation, hence for analysis the speed S2 is considered.

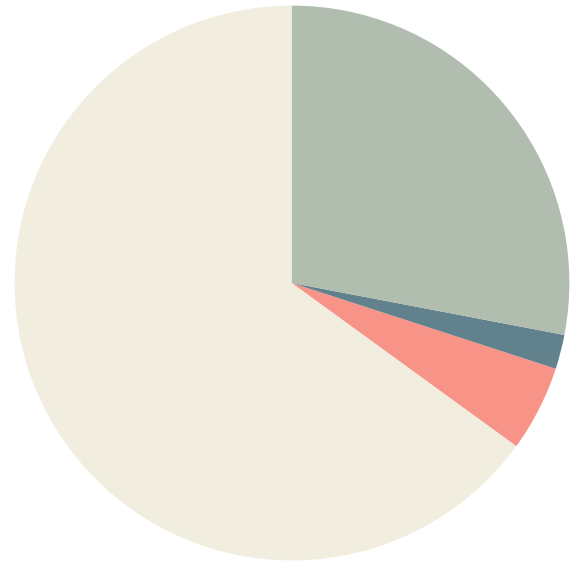


# Survey locations



### Vehicles Surveyed - type

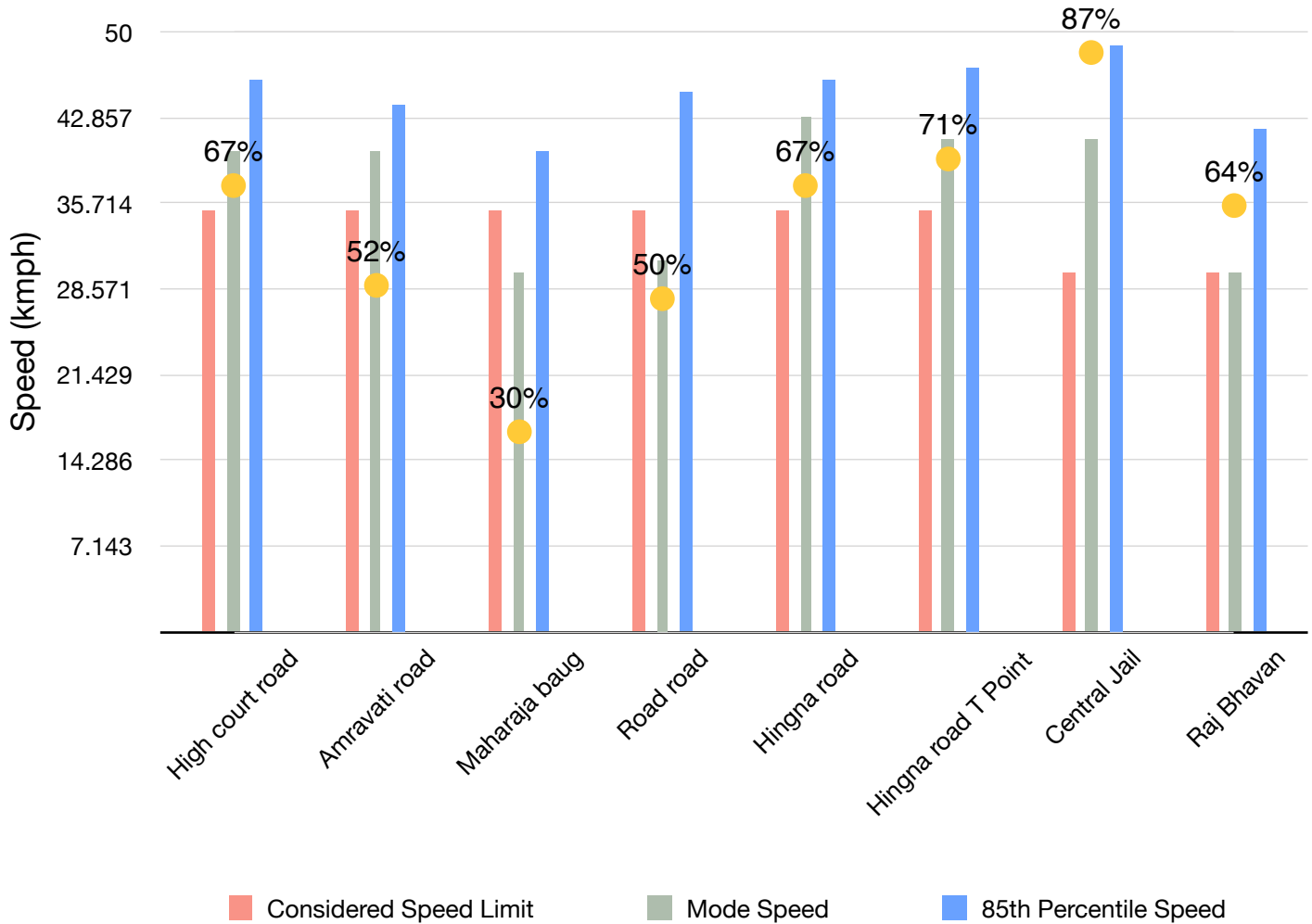
●	Four-Wheeler	28%
●	Heavy Vehicle	2%
●	Three-Wheeler	5%
●	Two-Wheeler	65%



## Results

#	Name of the street	Posted speed limit	Considered Speed Limit	Violation %	Speed Mode	85th perc speed	Excessive speed mode	Higher Speed Time
1	Nagpur High court road	35	35	67%	40	46	4w	M
2	Nagpur Central Jail	20	30	87%	41	49	4w,2w	M
3	Nagpur Amravati road	35	35	52%	40	44	4w,HV	M
4	Nagpur Maharaja baug	35	35	30%	30	40	2w	A
5	Nagpur Road road	35	35	50%	31	45	4w,2w	M
6	Nagpur Hingna road	35	35	67%	43	46	4w	M
7	Hingna road T Point	35	35	71%	41	47	4w,2w	M
8	Nagpur Raj Bhavan	30	30	64%	30	42	HV	A

## Speed Limit - Mode Speed - 85th Percentile Speed Speed Violation%



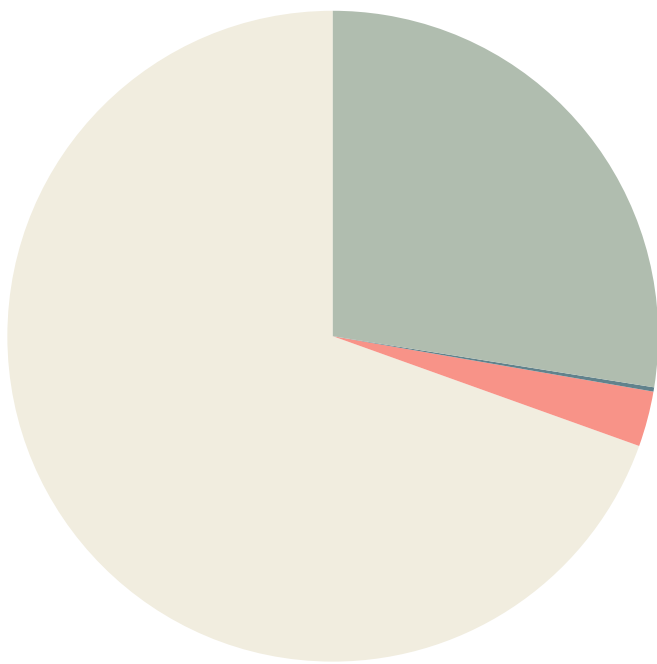
We find that Central Jail Road has a very high percentage of violations (87%), whereas for Maharaja Baug Road it is only 30%. All other roads fall in the range of 50% to 71% when it comes to speed violations.

Generally, the maximum number of vehicles are travelling at a speed (speed mode) which is close to the speed limit.





6 out of 8 roads showed higher speeds in the morning, with 2 in the afternoon. Also, on 6 out of the 8 roads four-wheelers had higher speeds, with only Maharaja Baug road having faster two-wheelers and Raj Bhavan Road having Heavy Vehicles with a higher speed violation %.

## Survey Profile

945 Vehicles



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	Four-Wheeler	<b>260</b>	<b>27%</b>
	Heavy Vehicle	<b>2</b>	<b>0.2%</b>
	Three-Wheeler	<b>26</b>	<b>2.8%</b>
	Two-Wheeler	<b>657</b>	<b>70%</b>

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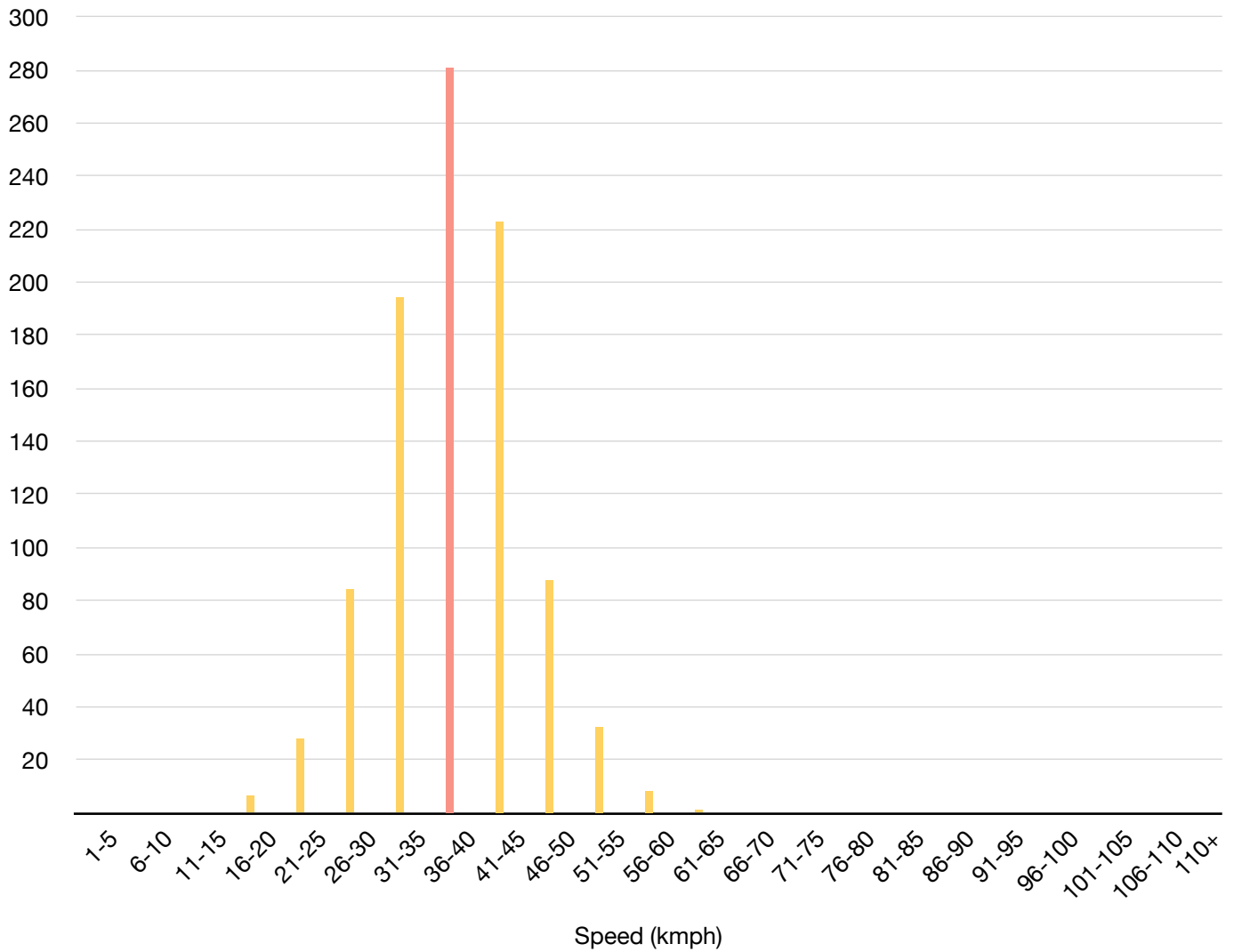
---

	Morning	<b>315</b>	<b>33%</b>
	Afternoon	<b>315</b>	<b>33%</b>
	Night	<b>315</b>	<b>33%</b>

---

# Speed Profile

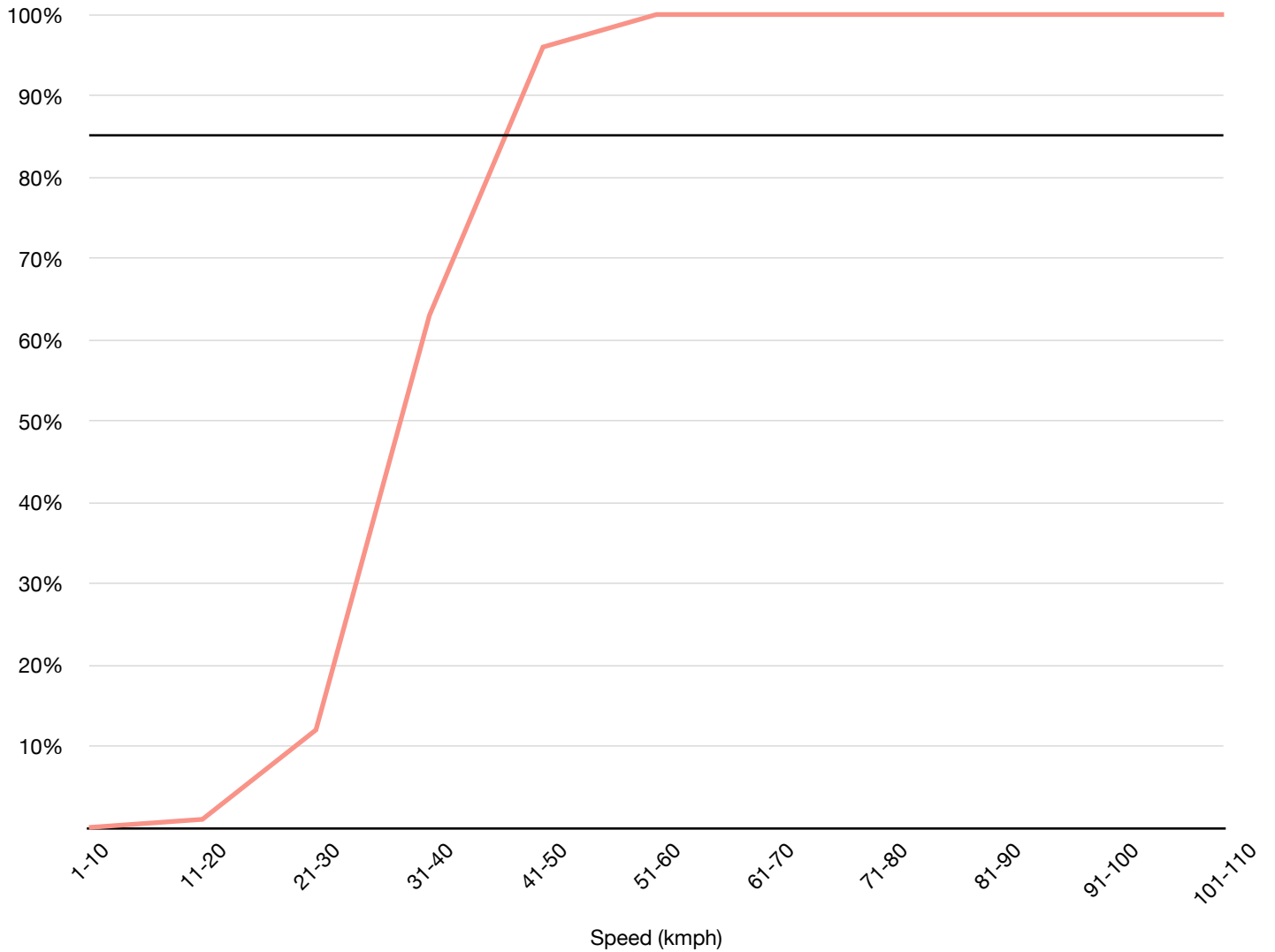
# Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 40 kmph.

# Speed Curve

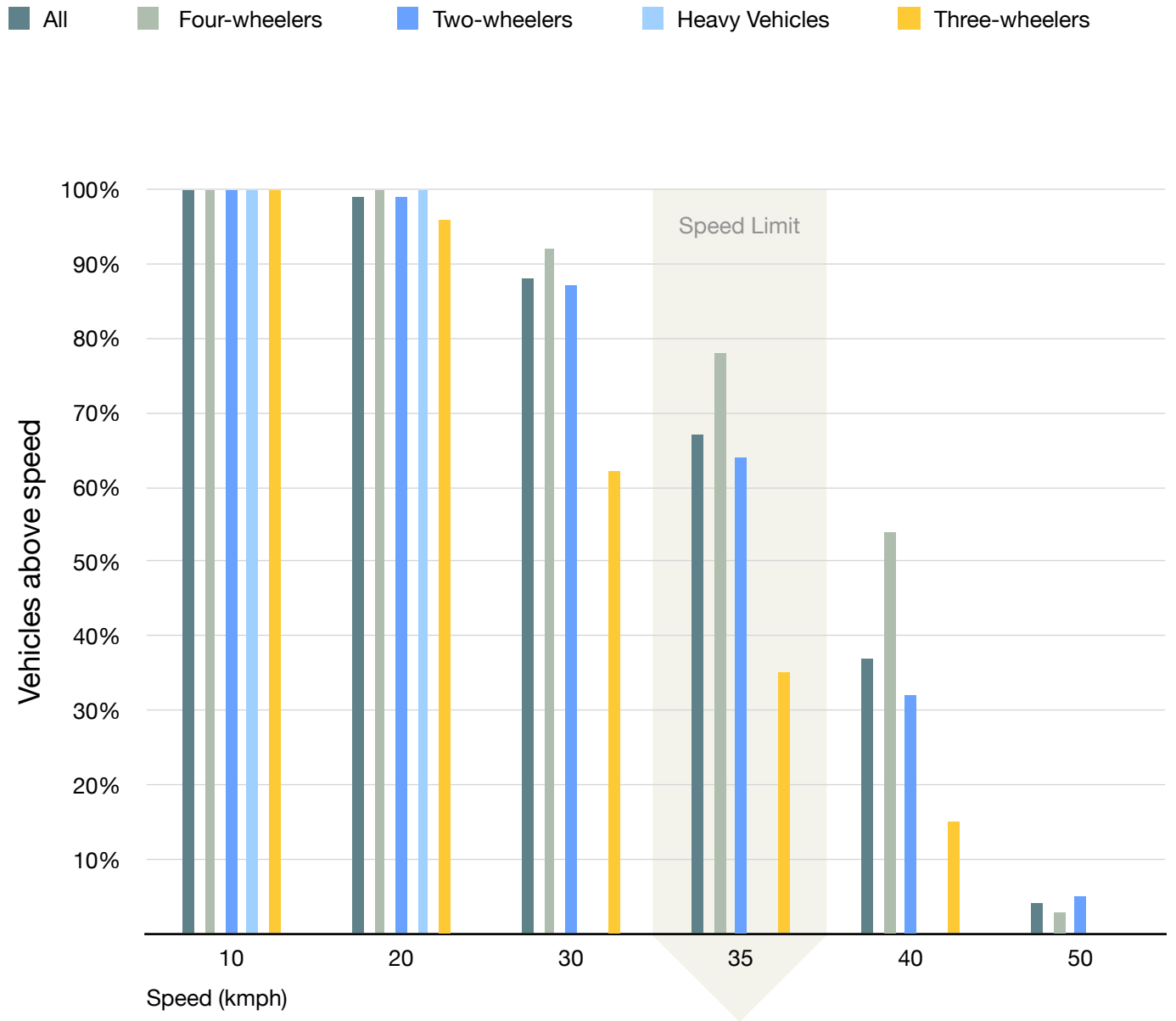
# Percent of vehicles below a speed range



The 85th percentile speed was 46 kmph. The maximum, i.e., 85% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

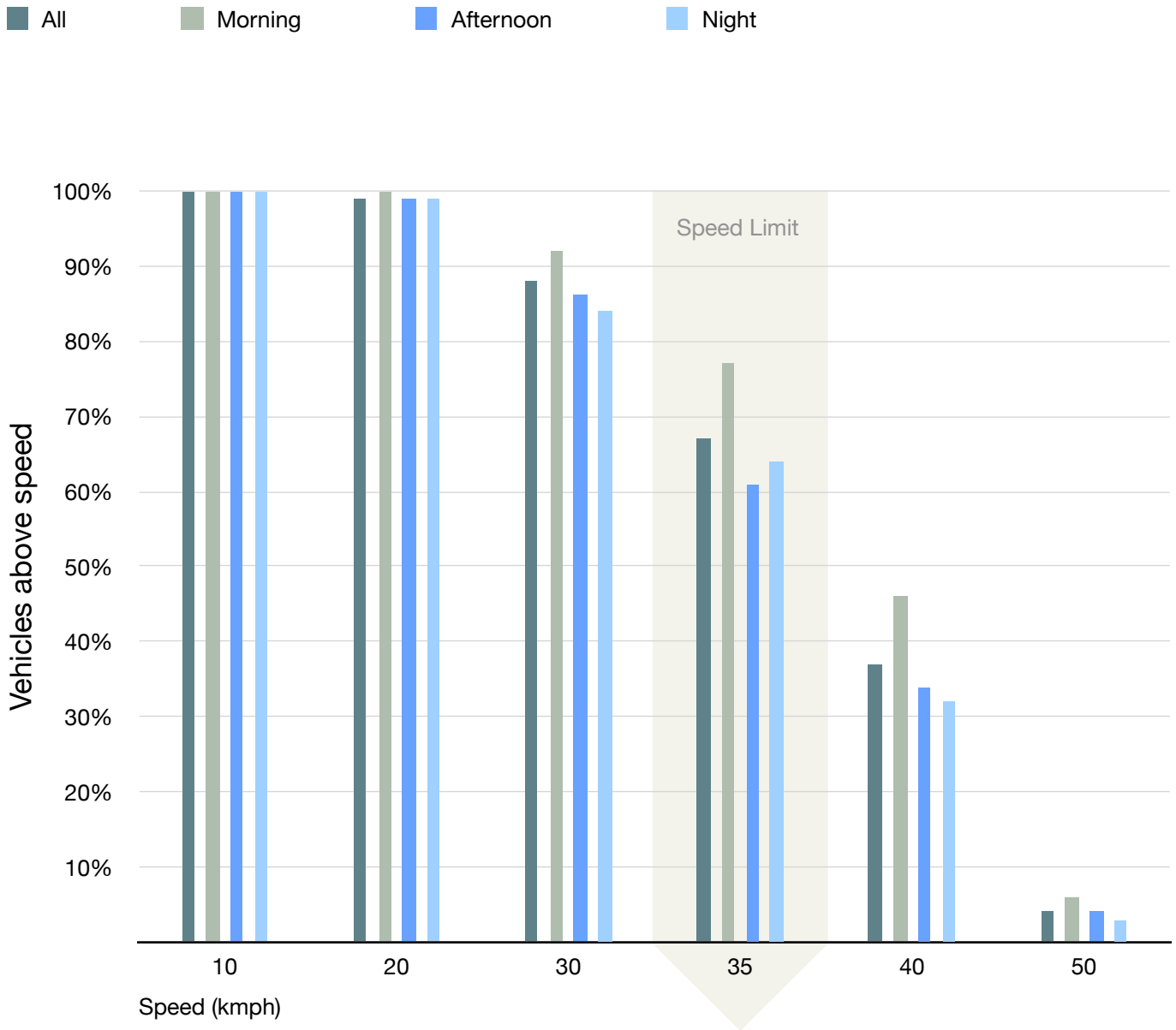


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	67%	78%	64%	0%	35%

We find that 67% vehicles exceed the designated speed limit. However, we find that far more four-wheelers exceed the speed (78%) as compared to other vehicles.

# Speeding

## By time of day



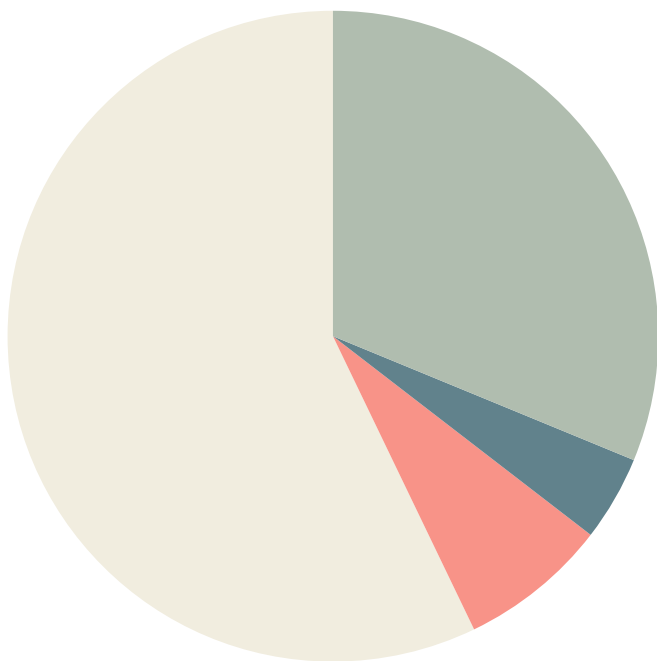
Speed limit	All	Morning	Afternoon	Night
35 kmph	67%	77%	61%	64%

We find that at Morning the speeds tend to be higher at 77%, with 46% of vehicles going above 30 kmph as compared to 32% in the night.



## Survey Profile

945 Vehicles

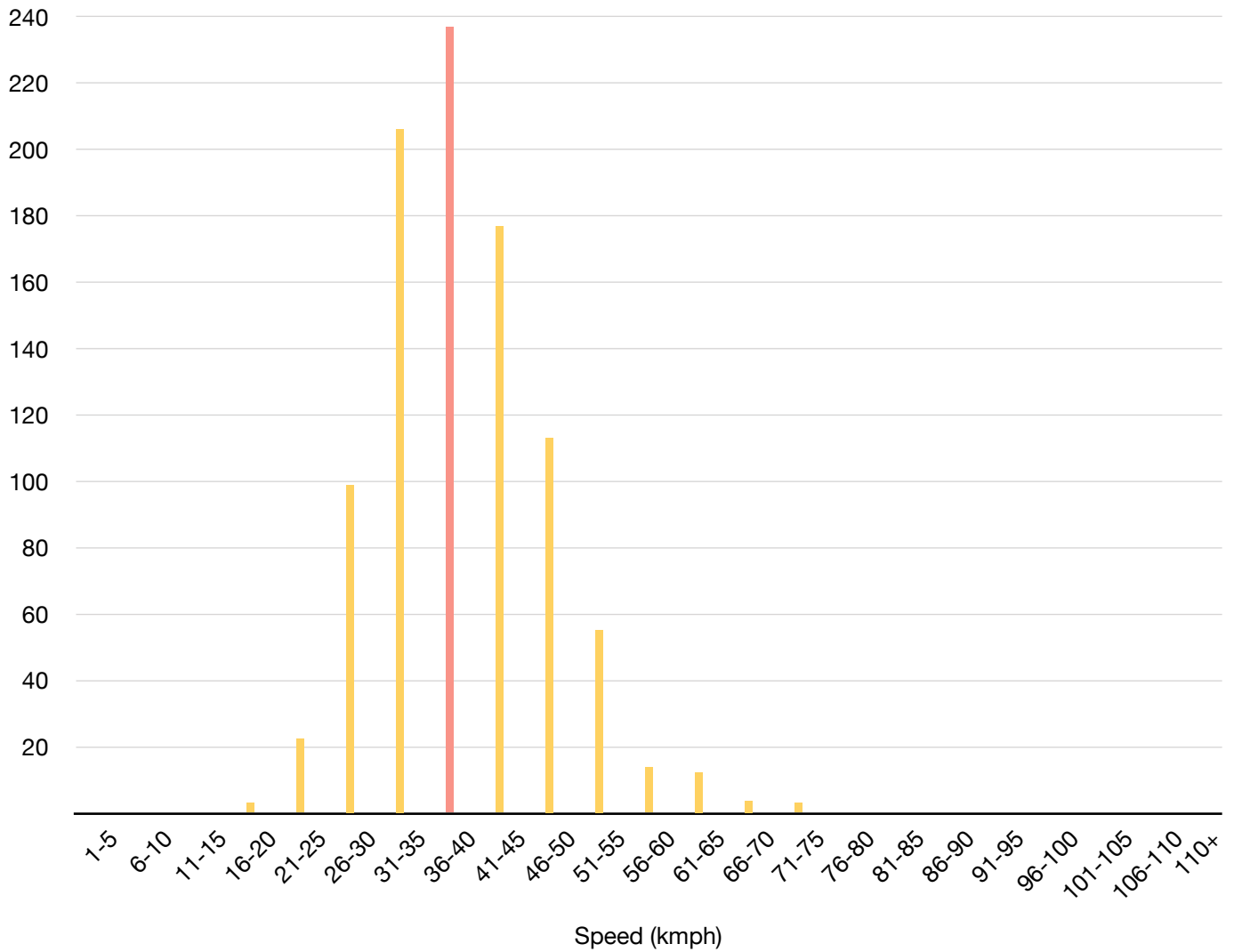


<span style="color: #808080;">●</span> Four-Wheeler	<b>295</b>	<b>31%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>40</b>	<b>4%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>70</b>	<b>7%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>540</b>	<b>57%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>315</b>	<b>33%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>315</b>	<b>33%</b>
<span style="color: #4682B4;">●</span> Night	<b>315</b>	<b>33%</b>

# Speed Profile

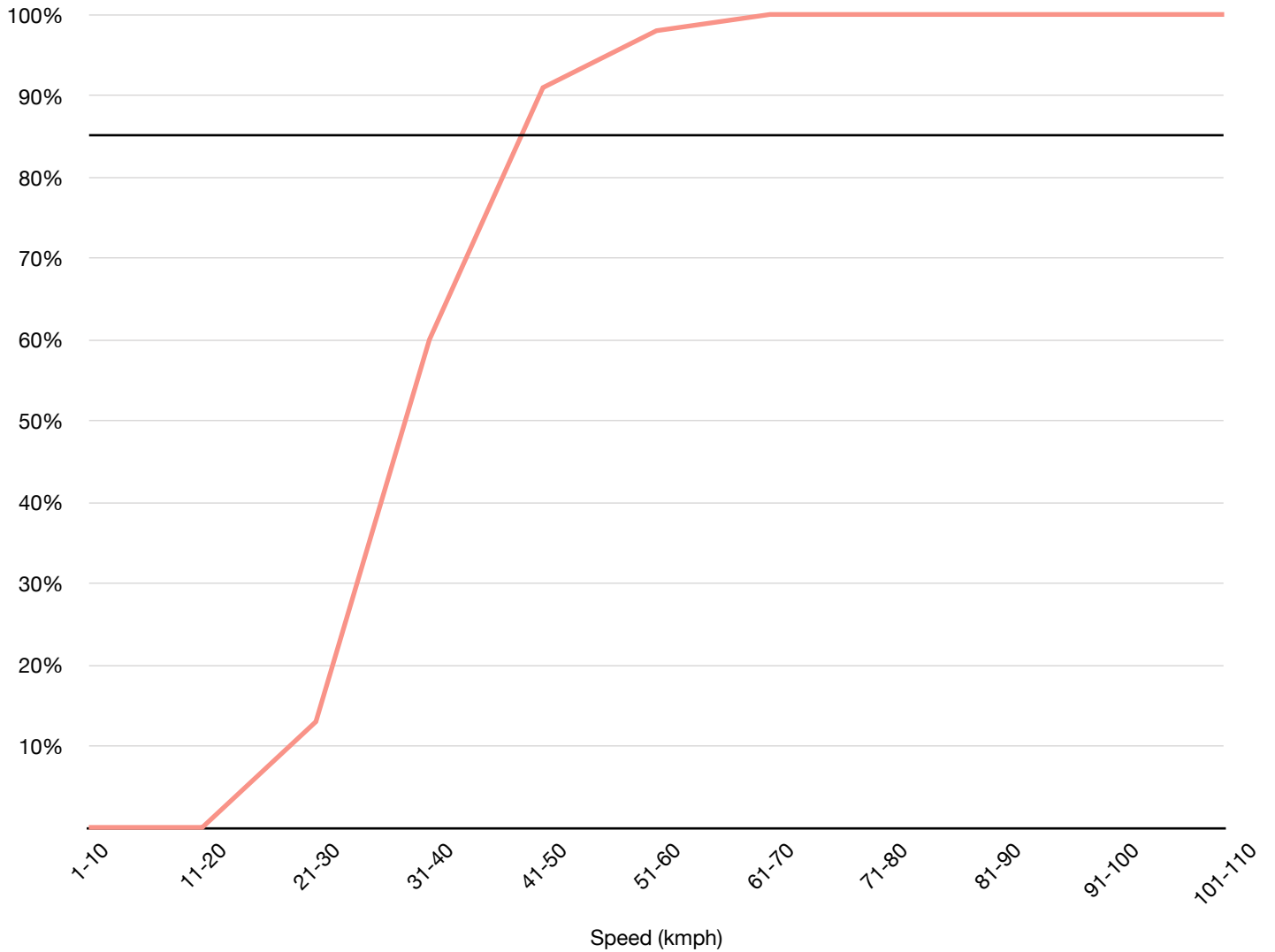
# Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph.  
The highest number of vehicles were travelling at 41 kmph.

# Speed Curve

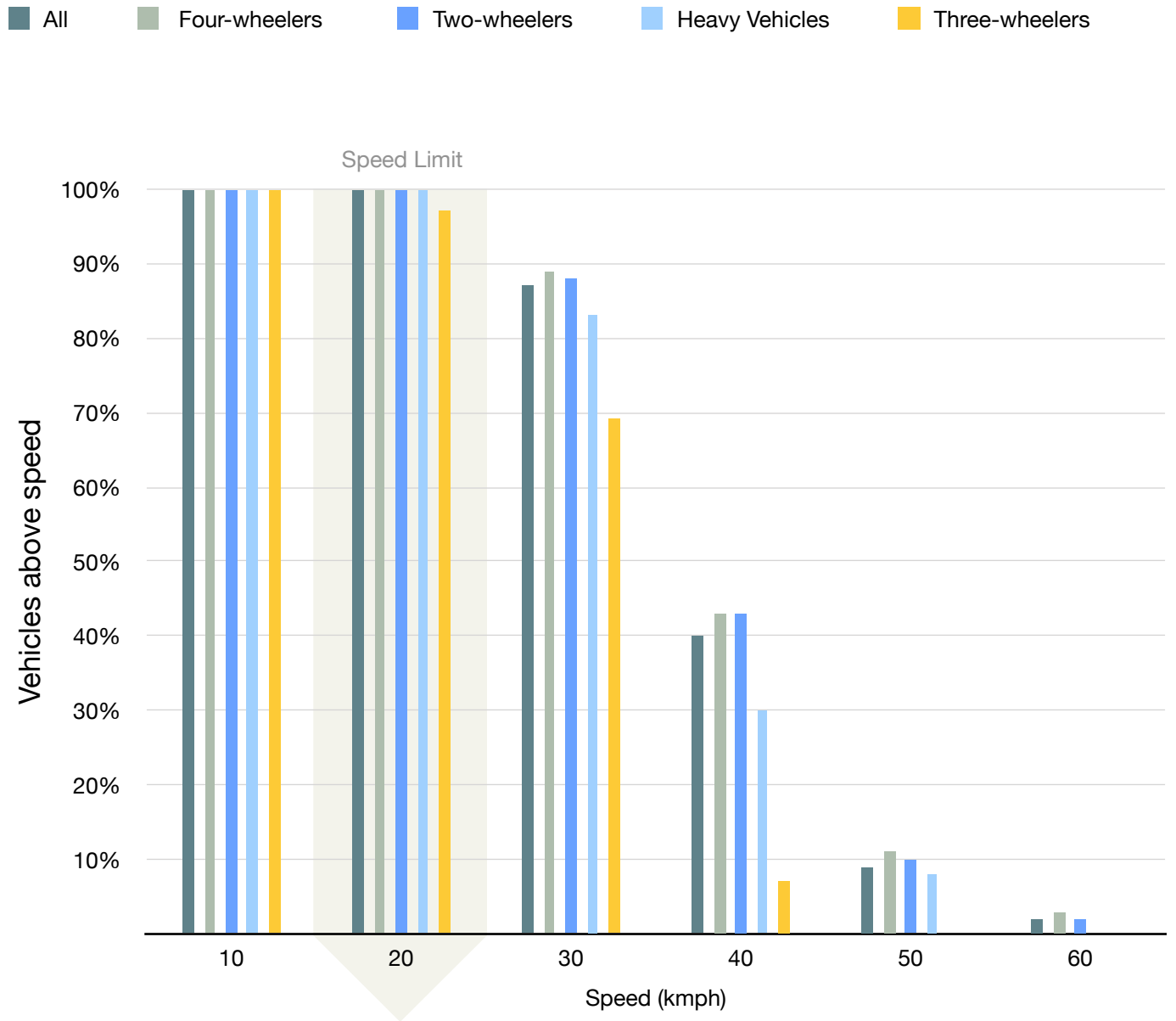
# Percent of vehicles below a speed range



The 85th percentile speed was 49 kmph. The maximum, i.e., 80% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

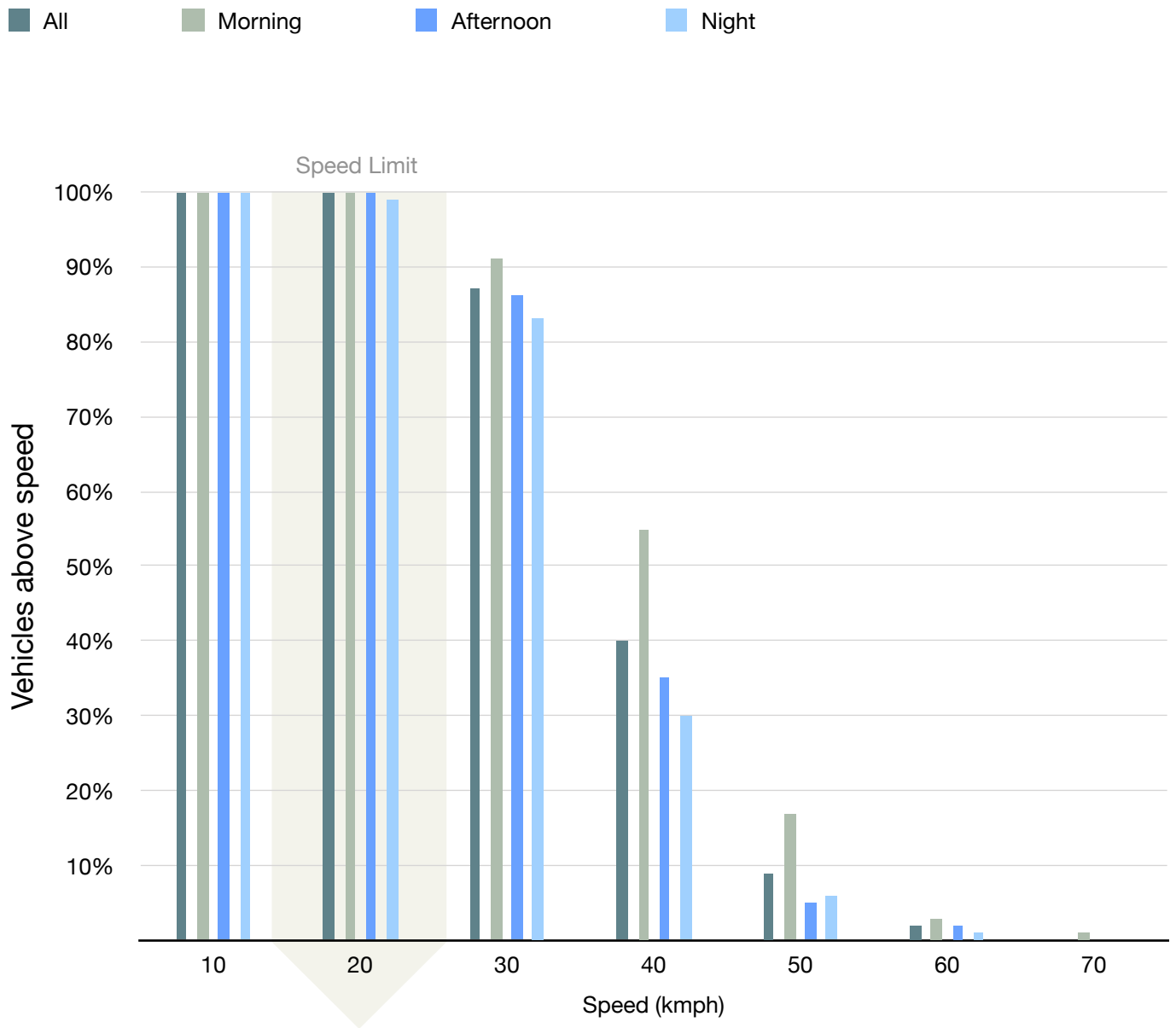


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
20 kmph	100%	100%	100%	100%	97%

We find that 100% vehicles exceed the designated speed limit. However, we find that even at 30 kmph, most vehicles exceed this speed.

# Speeding

## By time of day

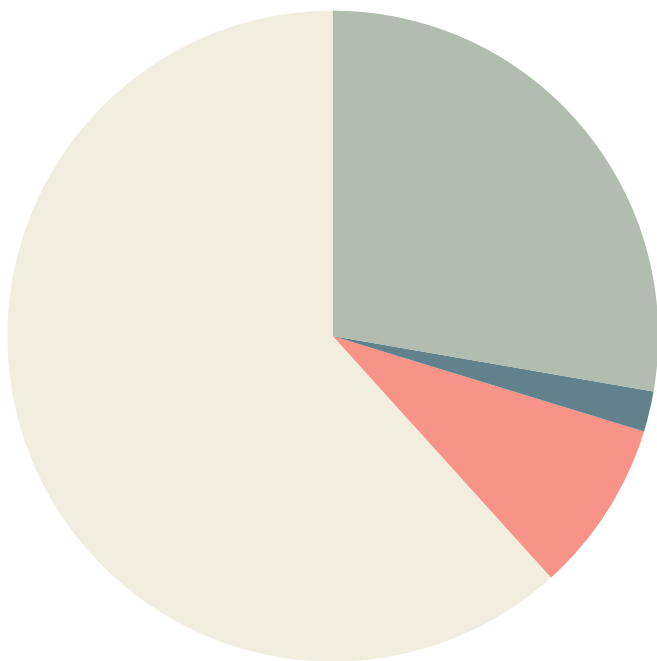


Speed limit	All	Morning	Afternoon	Night
20 kmph	100%	100%	100%	99%





We find that in the morning speeds tend to be marginally higher.

## Survey Profile

945 Vehicles



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	Four-Wheeler	<b>262</b>	<b>28%</b>
	Heavy Vehicle	<b>19</b>	<b>2%</b>
	Three-Wheeler	<b>81</b>	<b>8%</b>
	Two-Wheeler	<b>583</b>	<b>62%</b>

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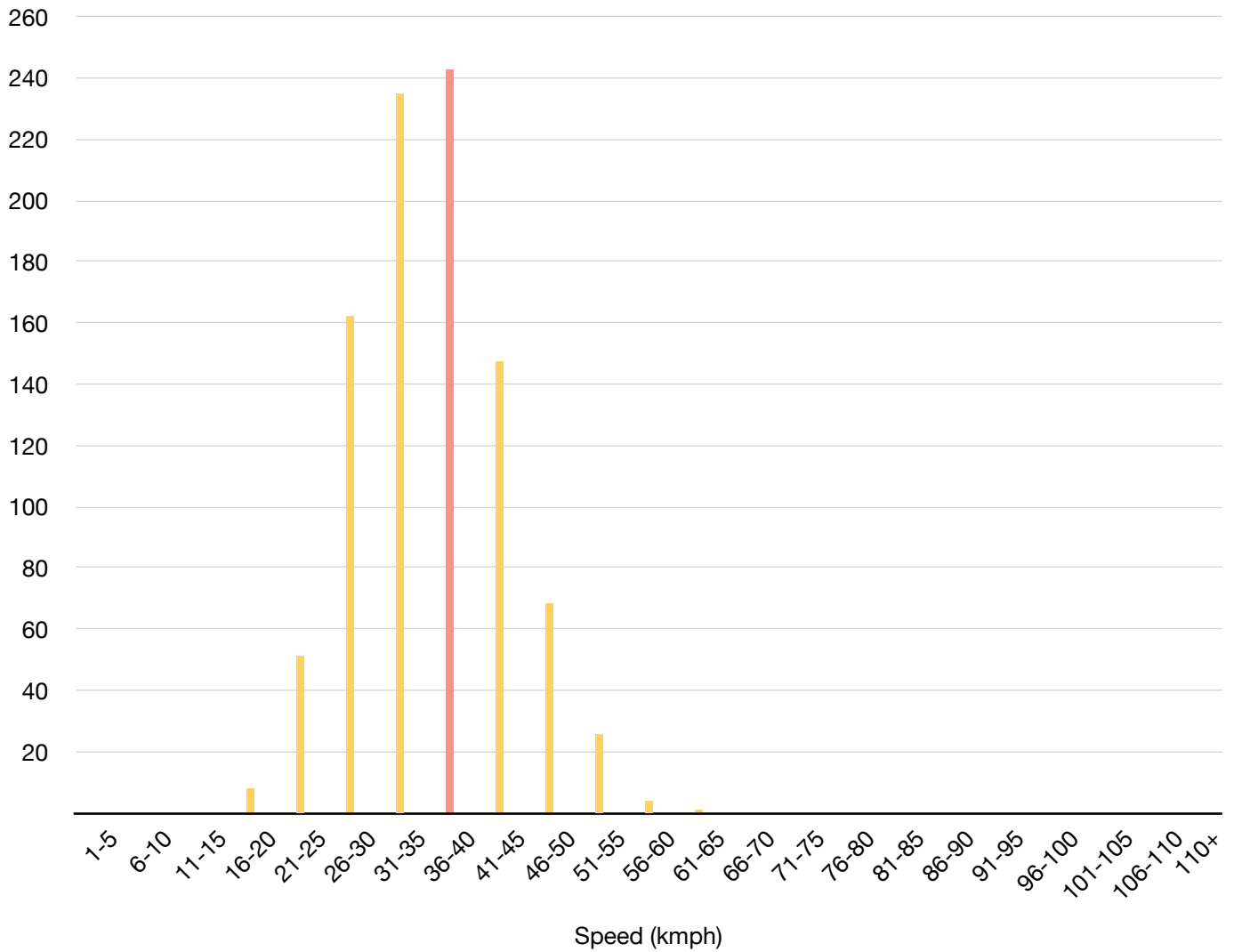
---

	Morning	<b>315</b>	<b>33%</b>
	Afternoon	<b>315</b>	<b>33%</b>
	Night	<b>315</b>	<b>33%</b>

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# Speed Profile

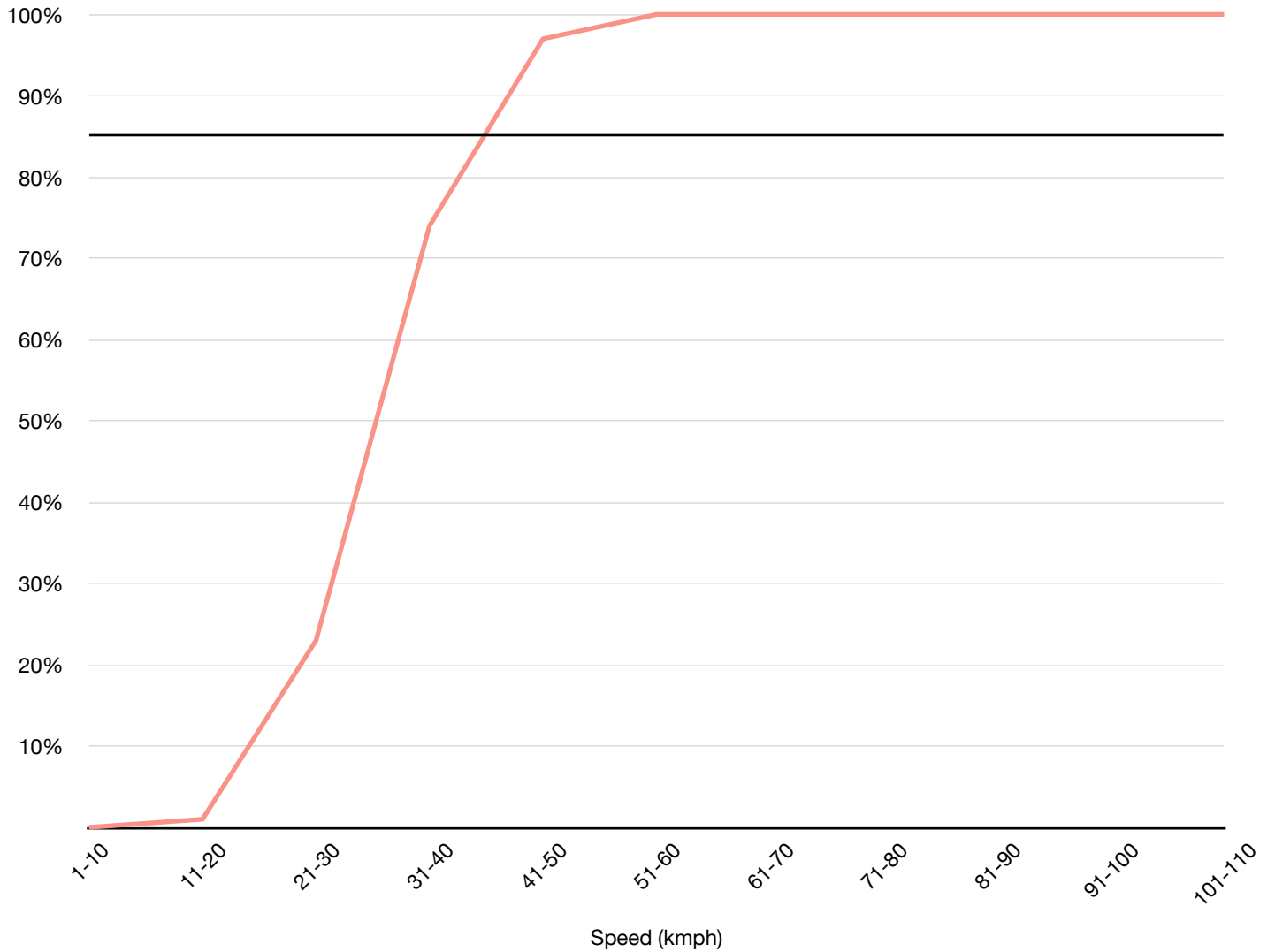
# Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph.  
The highest number of vehicles were travelling at 40 kmph.

# Speed Curve

# Percent of vehicles below a speed range

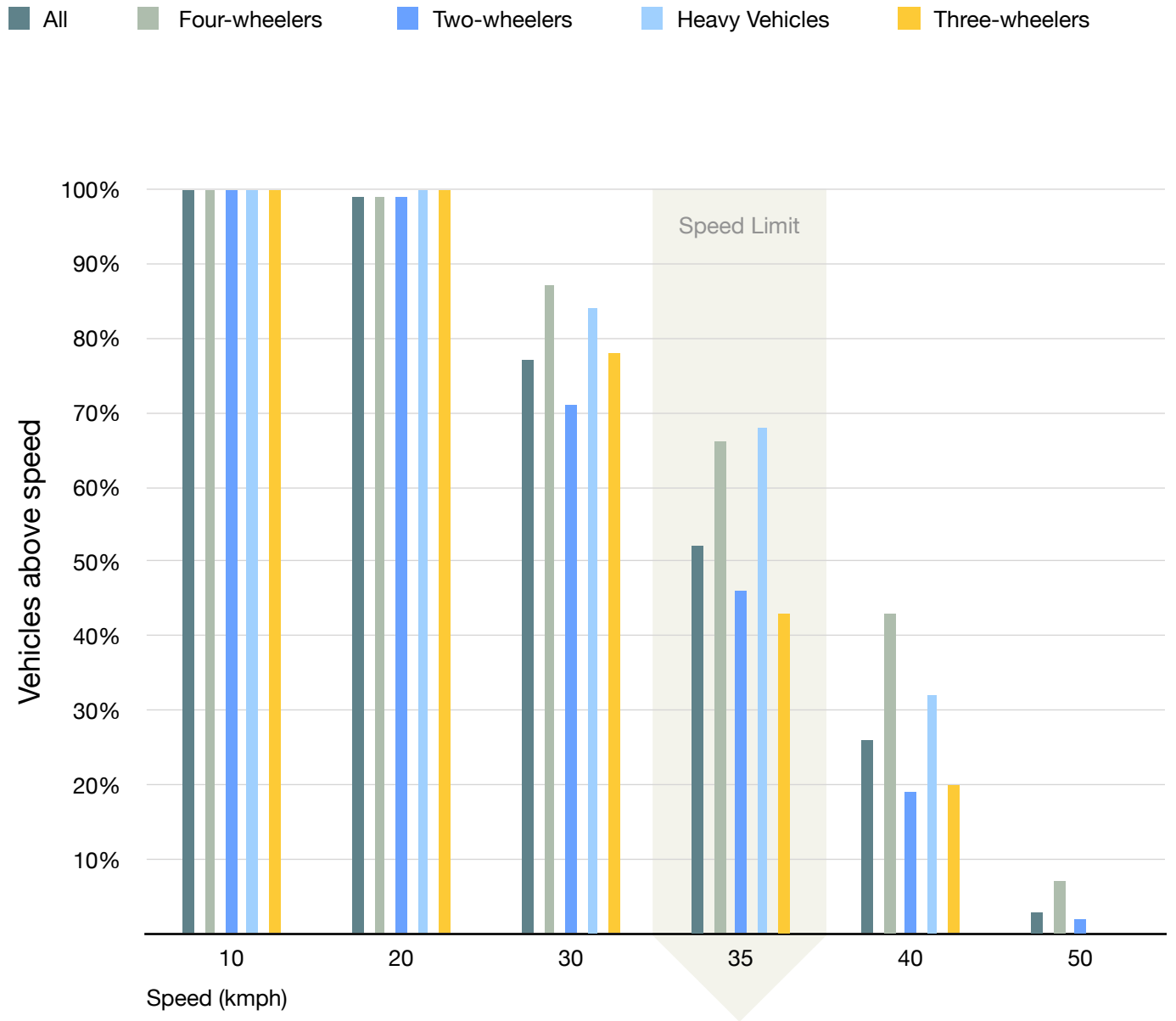


The 85th percentile speed was 44 kmph. The maximum, i.e., 83% of vehicles were found to be travelling between 36 kmph  $\pm$  10 kmph.



# Speeding

## By type of vehicle

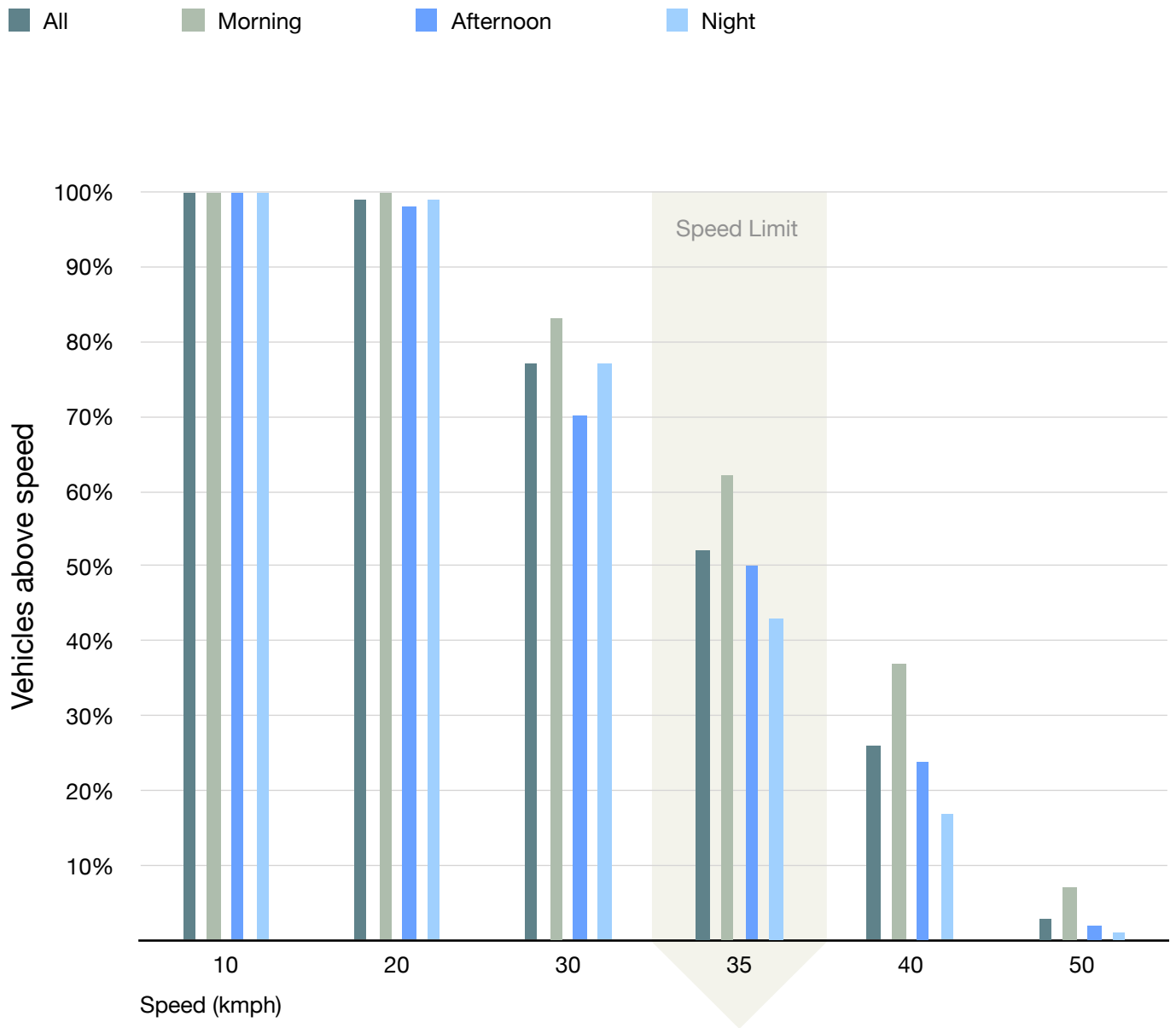


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	52%	66%	46%	68%	43%

We find that 52% vehicles exceed the designated speed limit. 66% of 4-wheelers and heavy vehicles were found to be exceeding the speed limit.

# Speeding

## By time of day

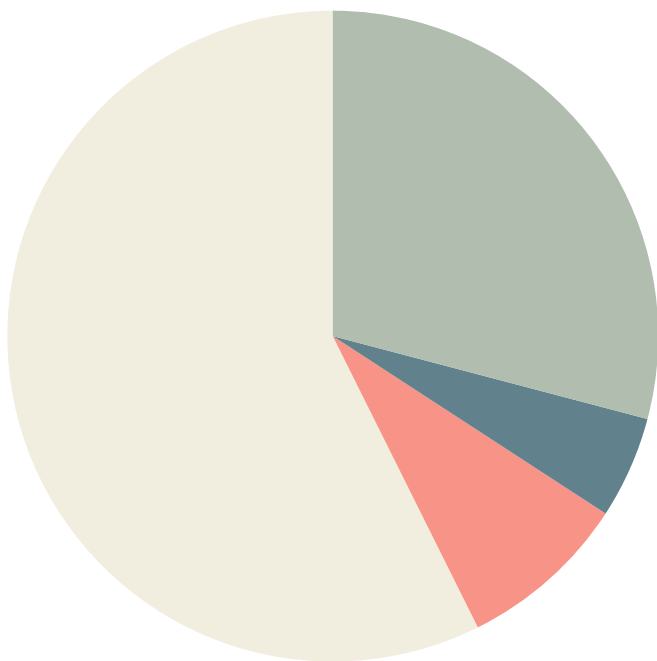


Speed limit	All	Morning	Afternoon	Night
35 kmph	52%	62%	50%	43%

We find that at Morning the speeds tend to be higher, with 62% of vehicles going above 35 kmph as compared to 43% in the night.

## Survey Profile

945 Vehicles

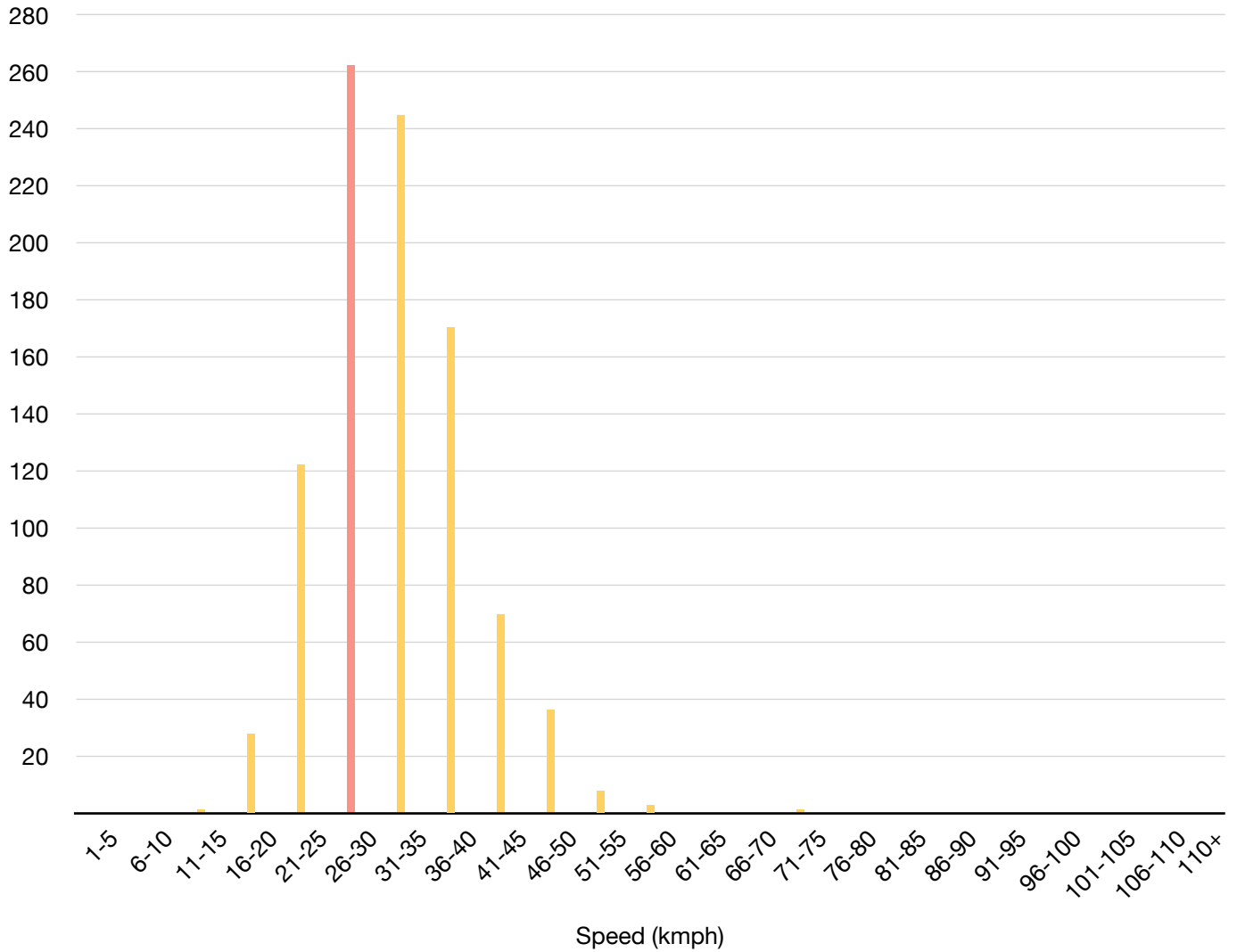


<span style="color: #808080;">●</span>	Four-Wheeler	<b>275</b>	<b>29%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>48</b>	<b>5%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>80</b>	<b>9%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>542</b>	<b>57%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>315</b>	<b>33%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>315</b>	<b>33%</b>
<span style="color: #4682B4;">●</span>	Night	<b>315</b>	<b>33%</b>

# Speed Profile

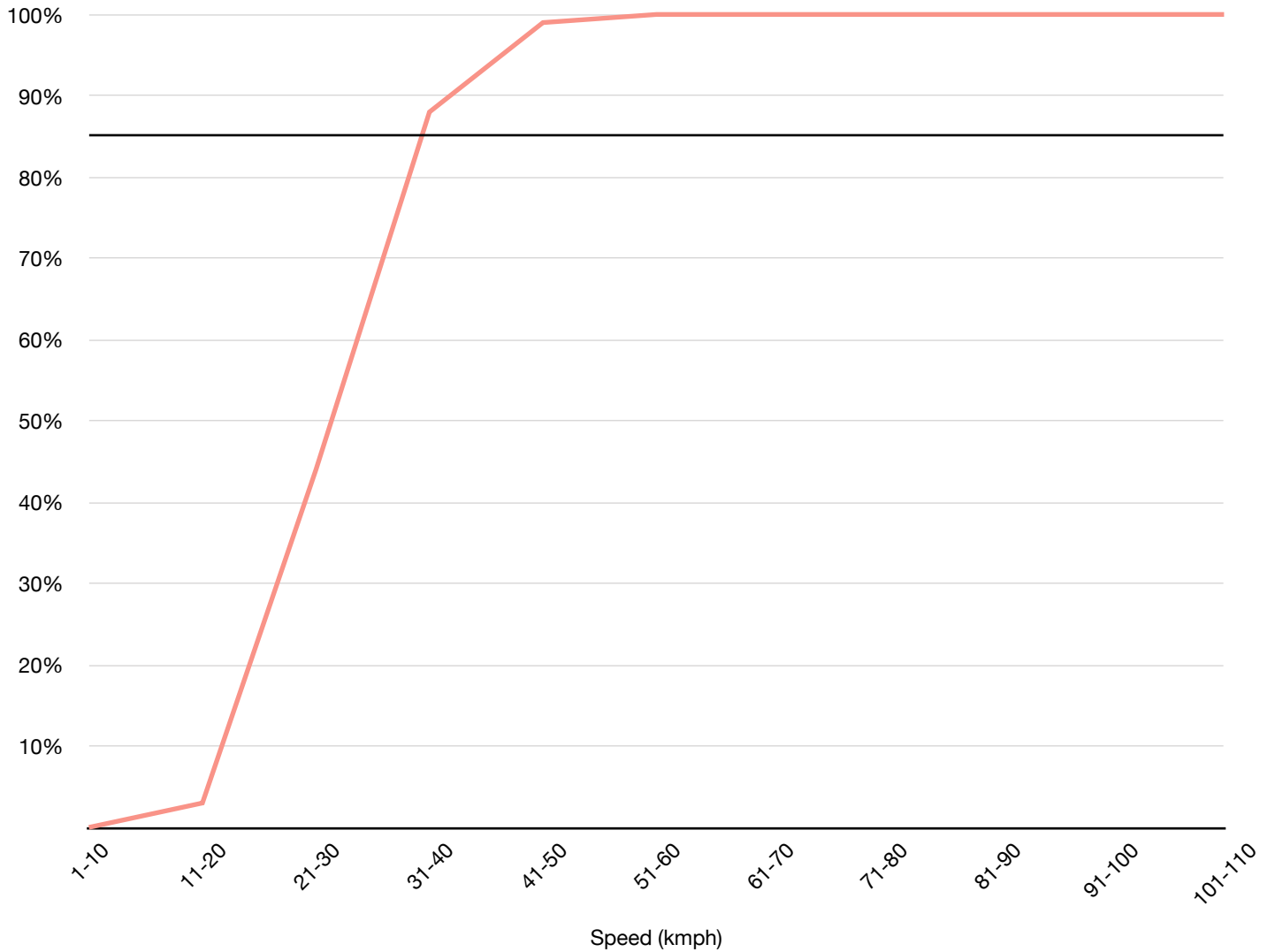
# Number of vehicles



The maximum number of vehicles were travelling between 26-30 kmph, followed by 31-35 kmph. The highest number of vehicles were travelling at 30 kmph.

# Speed Curve

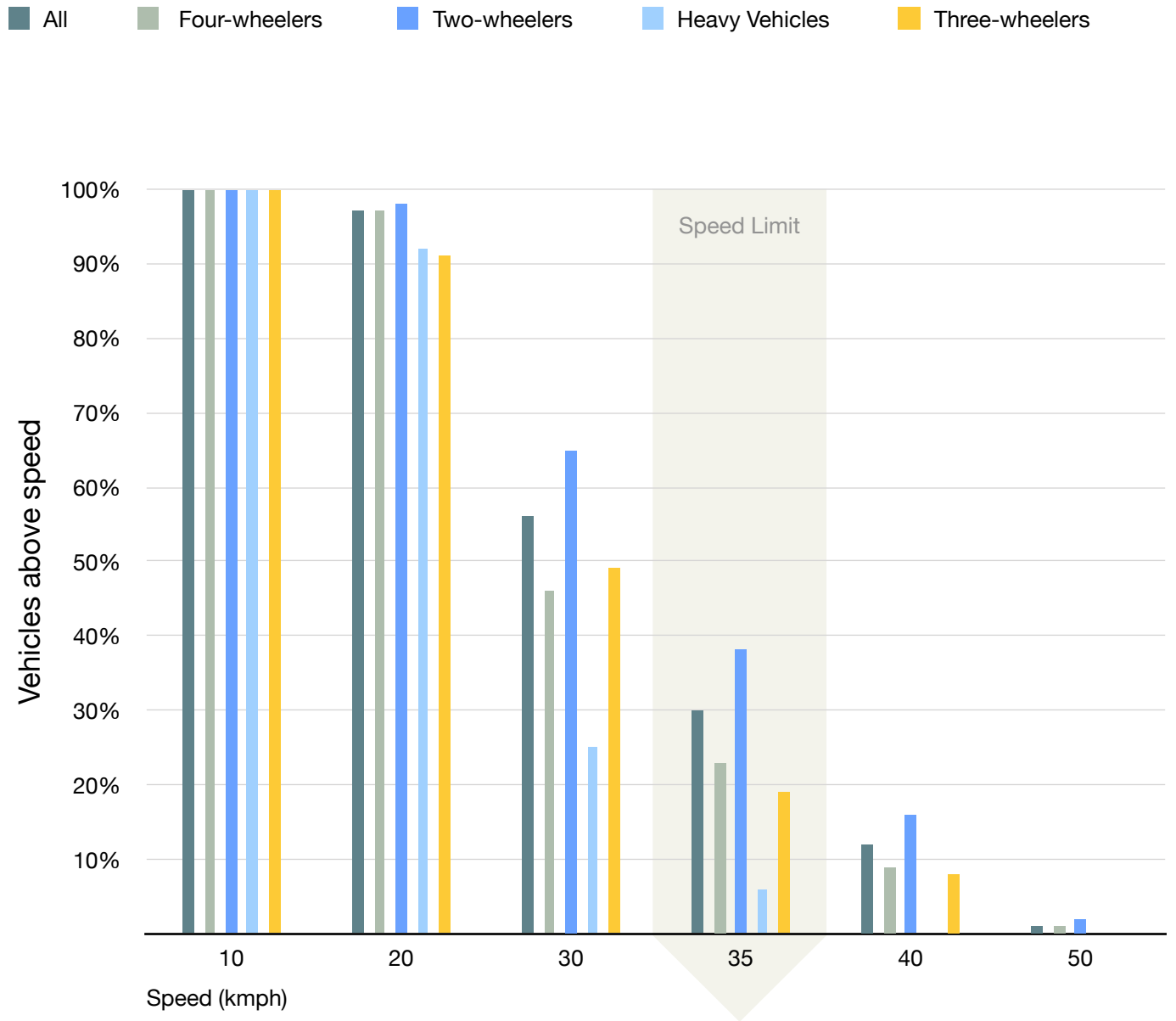
# Percent of vehicles below a speed range



The 85th percentile speed was 40 kmph. The maximum, i.e., 85% of vehicles were found to be travelling between 31 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

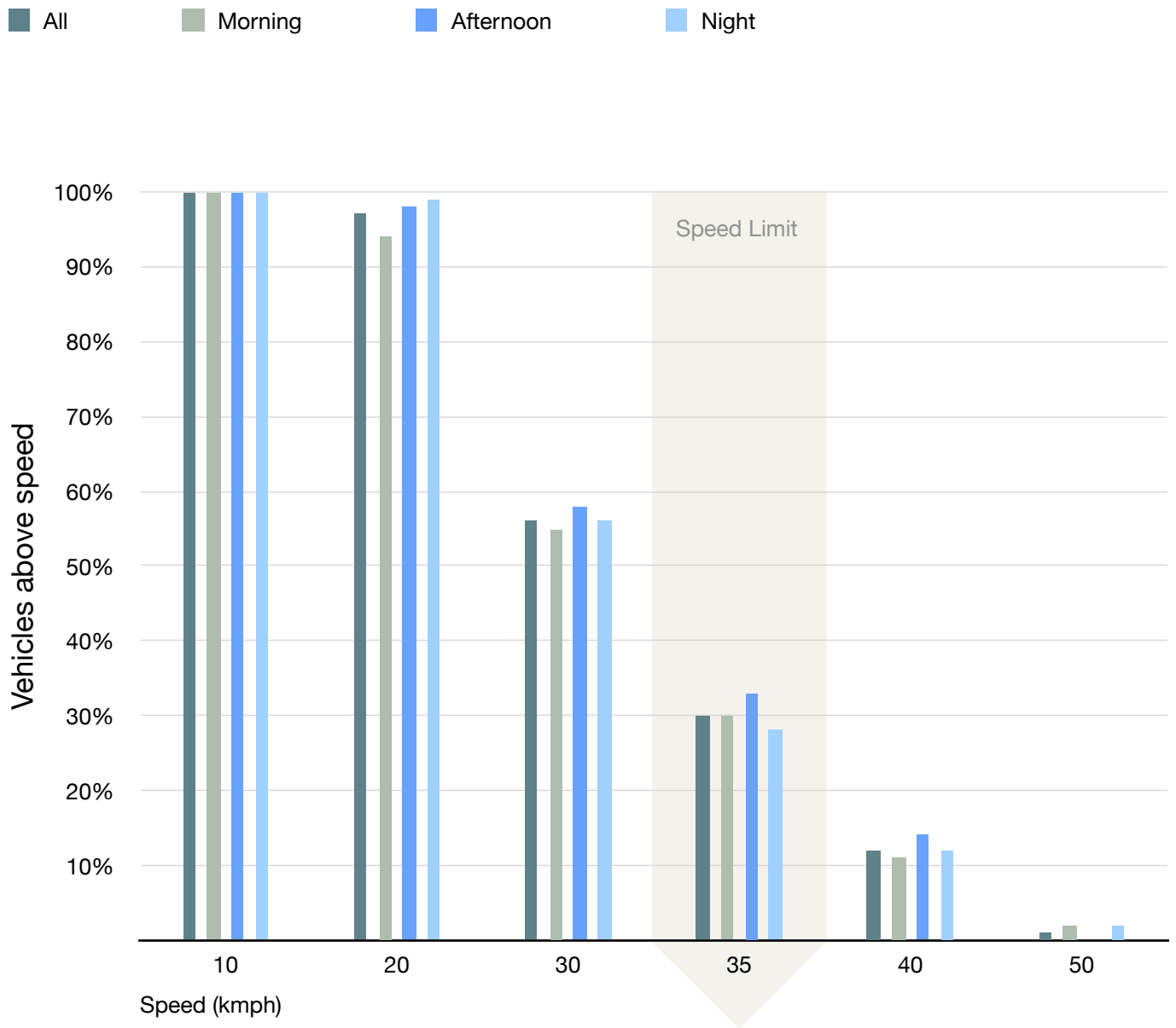


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	30%	23%	38%	6%	19%

We find that 30% vehicles exceed the designated speed limit.

# Speeding

## By time of day

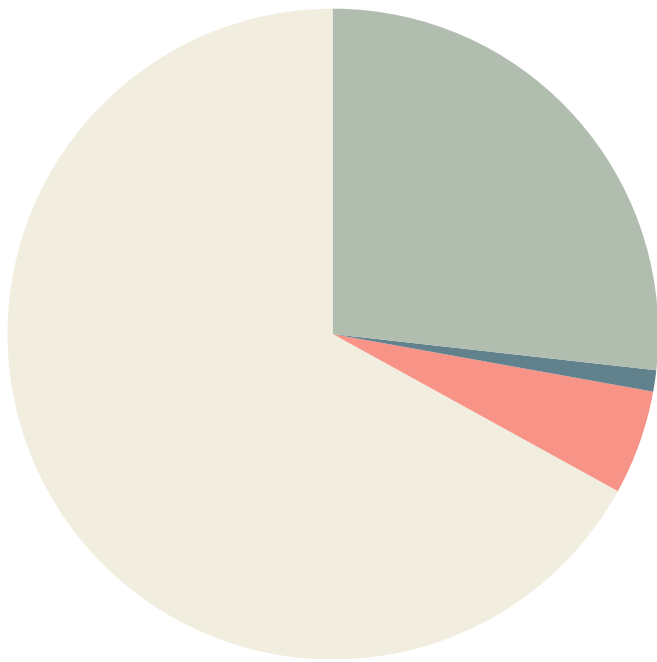


Speed limit	All	Morning	Afternoon	Night
35 kmph	52%	62%	50%	43%

We find that at Afternoon speeds tend to be higher at 33%, with 14% of vehicles going above 40 kmph.

## Survey Profile

945 Vehicles



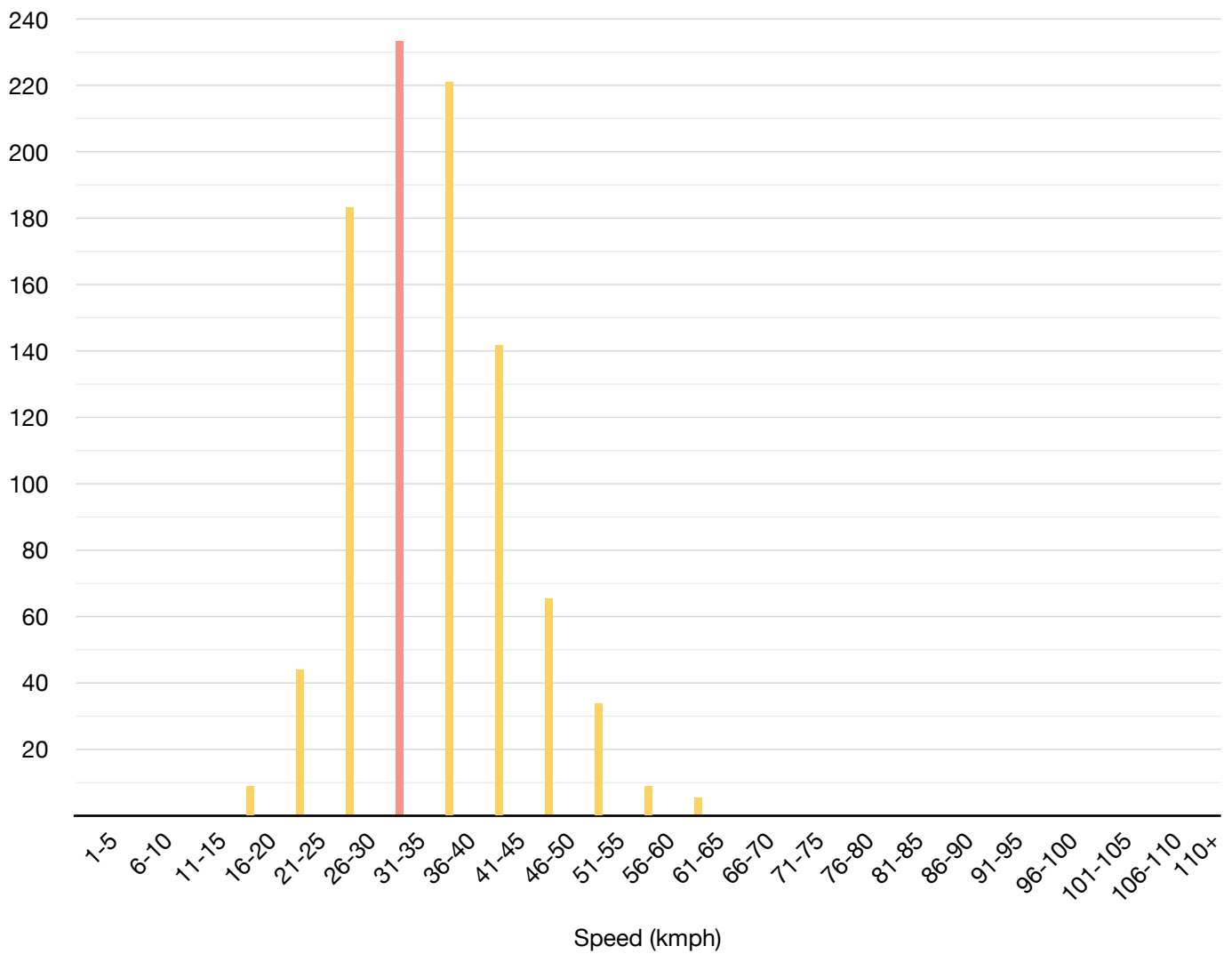
<span style="color: #808080;">●</span> Four-Wheeler	<b>253</b>	<b>27%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>10</b>	<b>1%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>49</b>	<b>5%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>633</b>	<b>67%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>315</b>	<b>33%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>315</b>	<b>33%</b>
<span style="color: #4682B4;">●</span> Night	<b>315</b>	<b>33%</b>



## Speed Profile

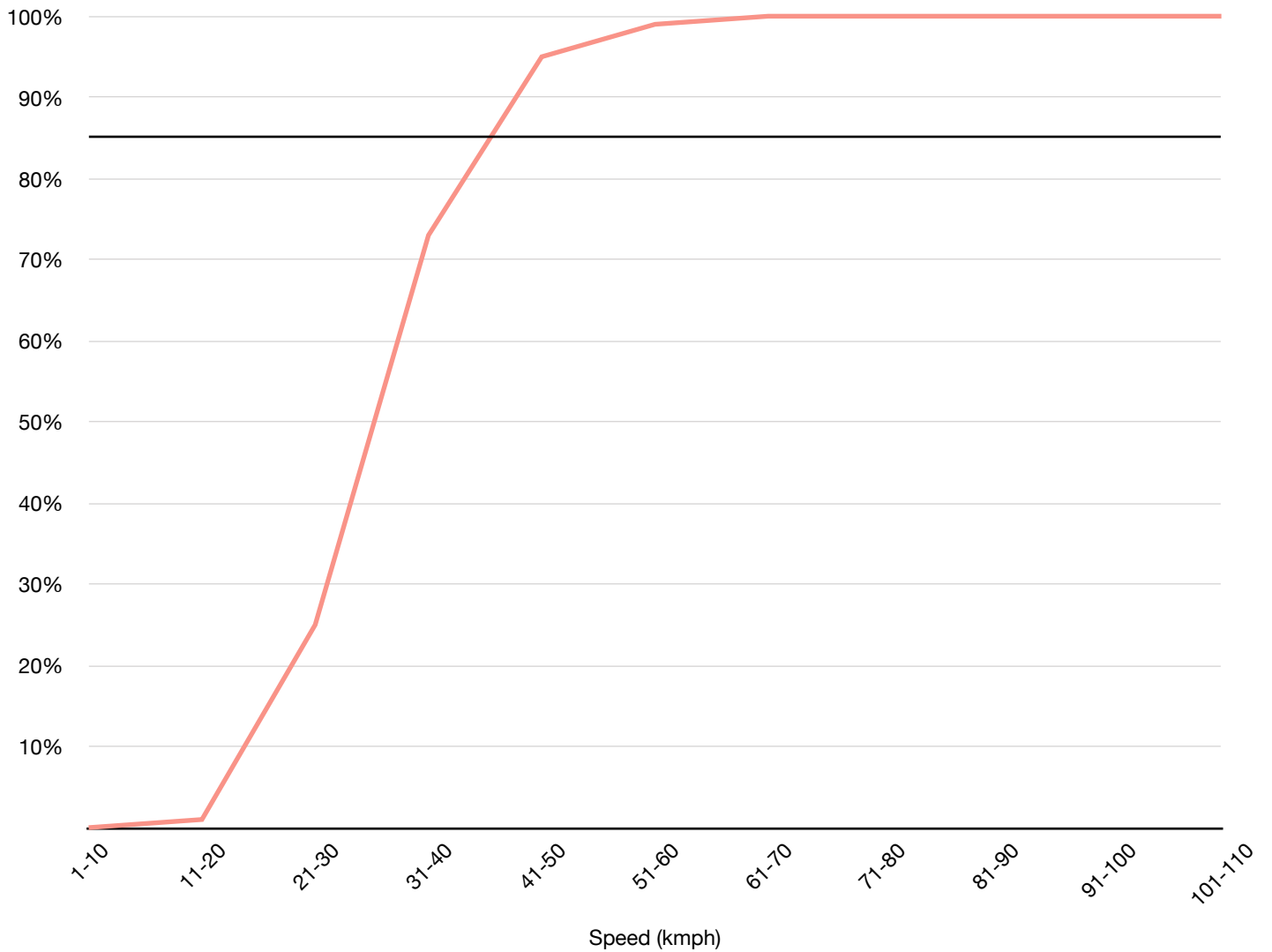
## Number of vehicles



The maximum number of vehicles were travelling between 31-35 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 31 kmph.

# Speed Curve

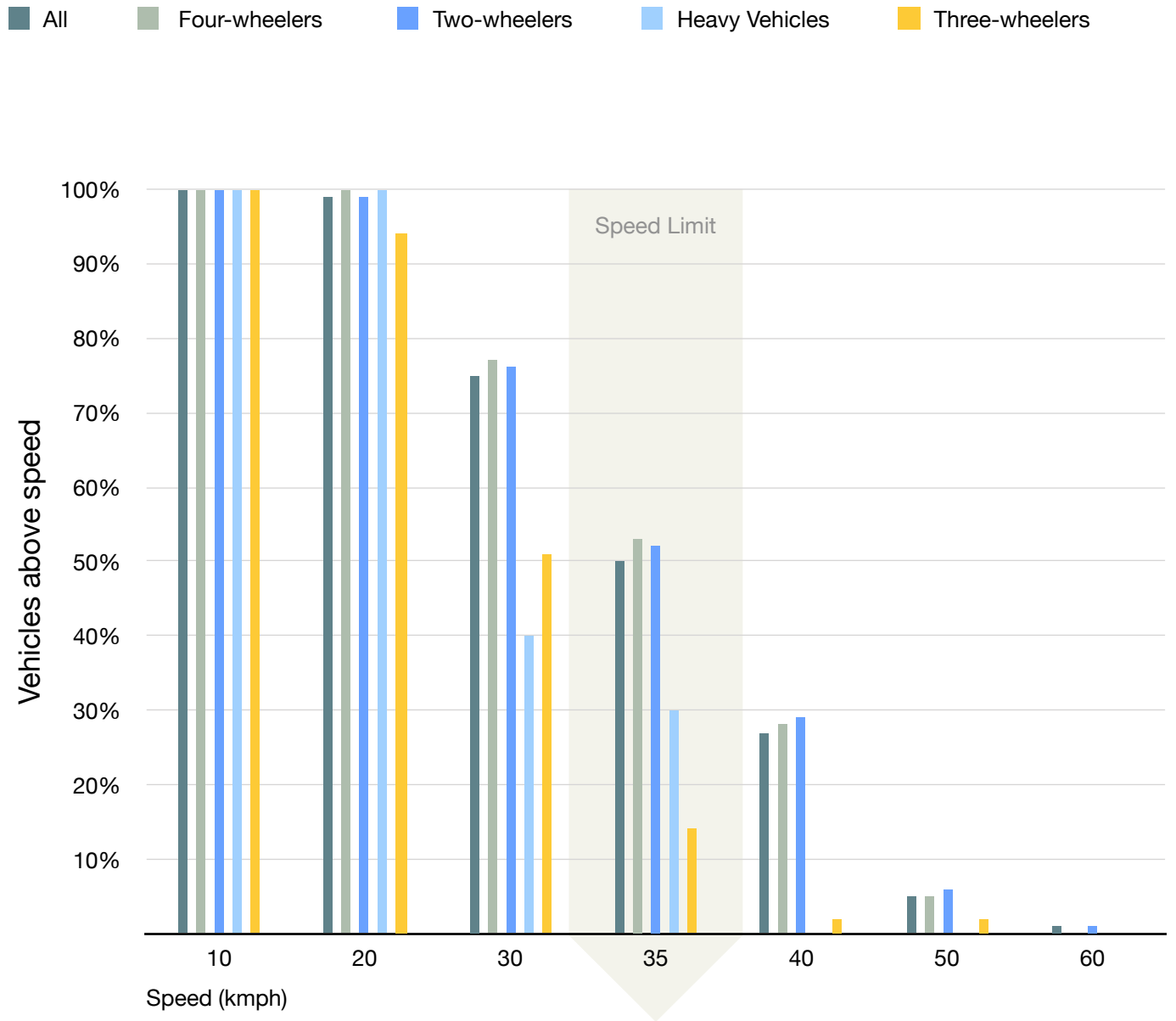
# Percent of vehicles below a speed range



The 85th percentile speed was 45 kmph. The maximum, i.e., 82% of vehicles were found to be travelling between 35 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

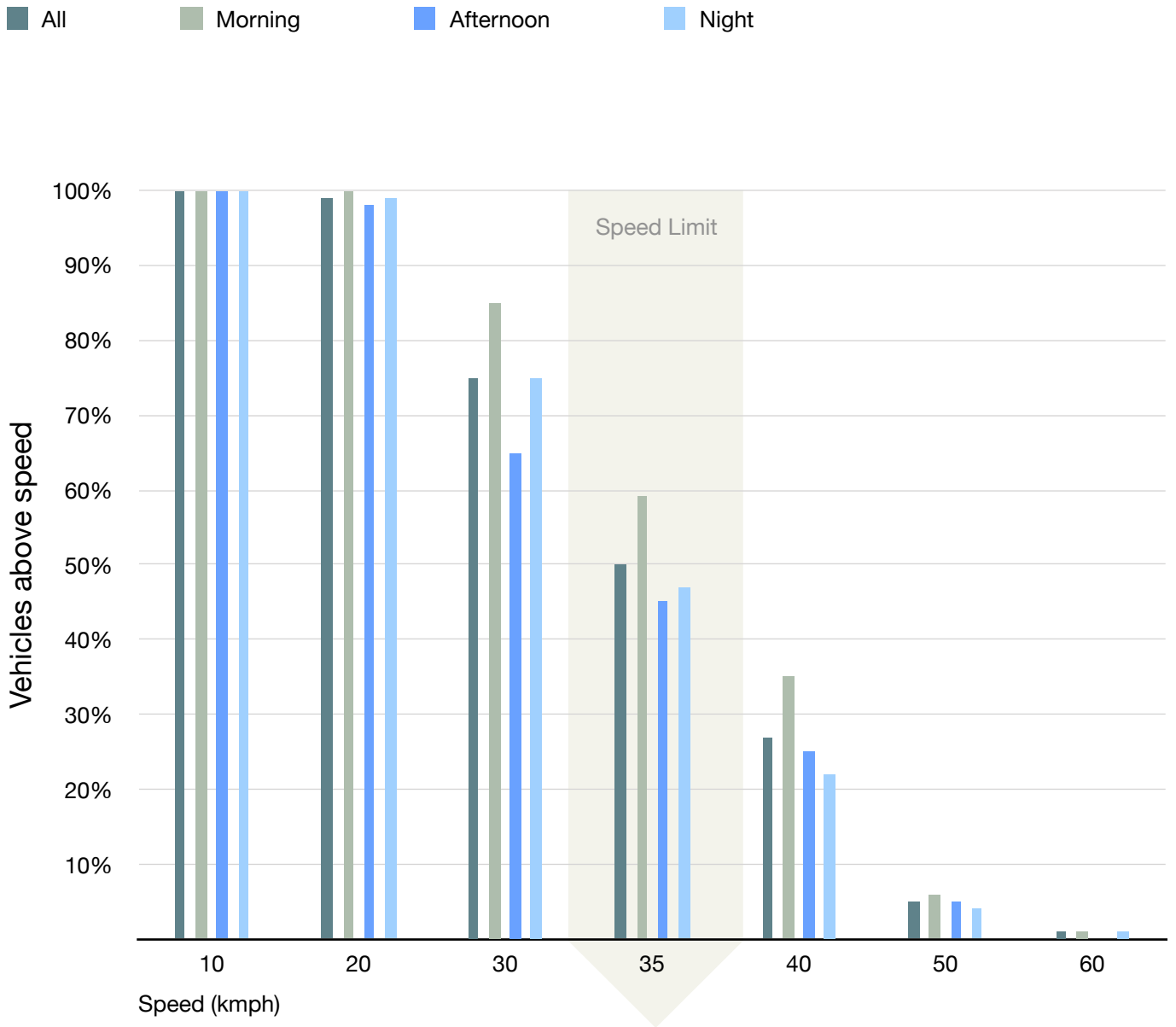


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	50%	53%	52%	30%	14%

We find that 50% vehicles exceed the designated speed limit. Both 4-wheelers and 2-wheelers exceed the speed limit even more, as compared to heavy vehicles and 3-wheelers.

# Speeding

## By time of day

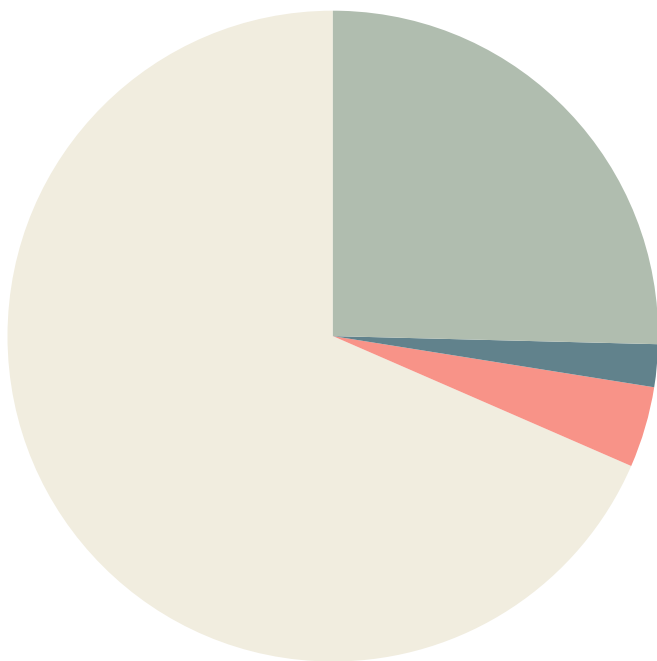


Speed limit	All	Morning	Afternoon	Night
35 kmph	50%	59%	45%	47%

We find that at Morning speeds tend to be higher at 59%.

## Survey Profile

945 Vehicles

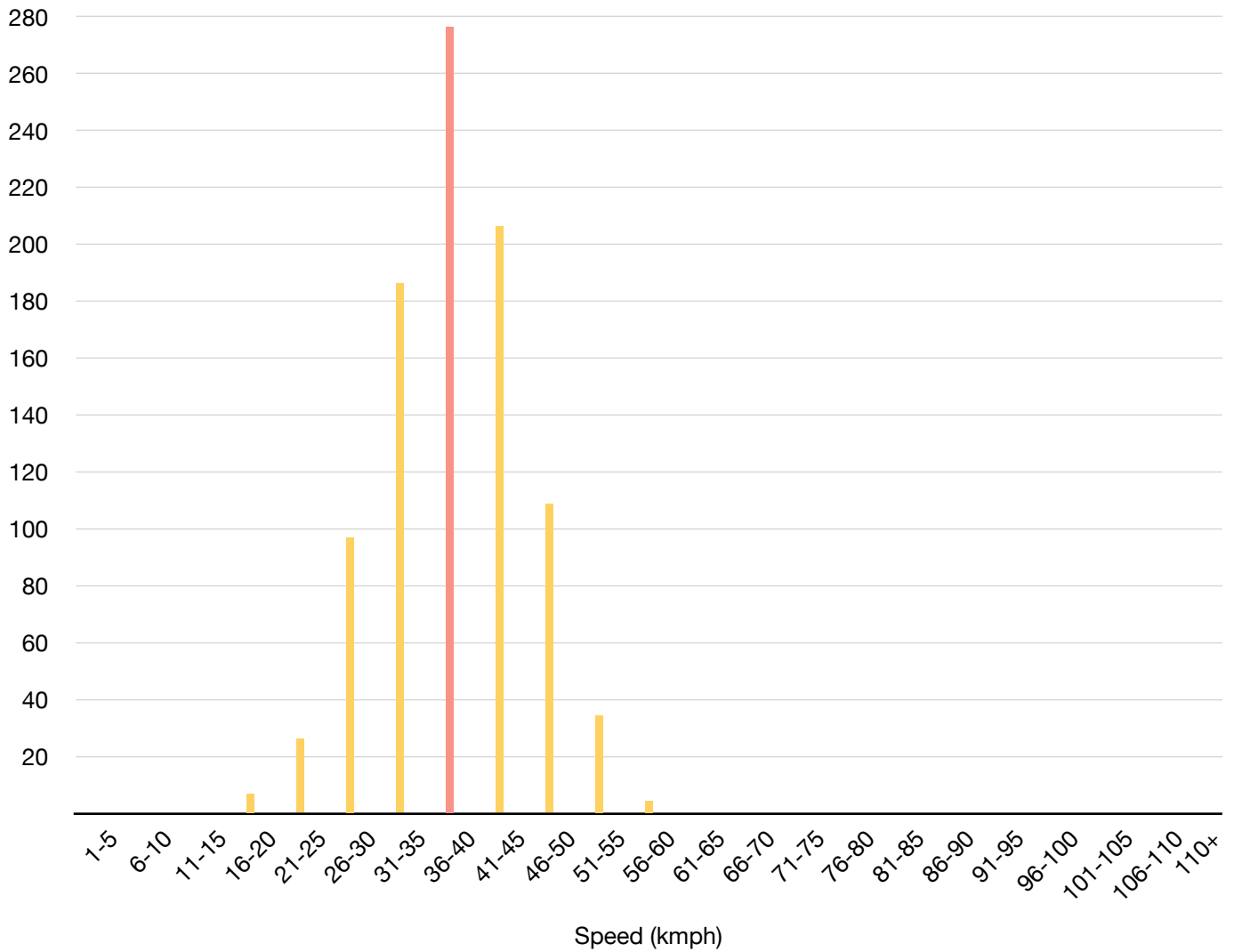


<span style="color: #808080;">●</span>	Four-Wheeler	<b>240</b>	<b>25%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>20</b>	<b>2%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>38</b>	<b>4%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>647</b>	<b>69%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>315</b>	<b>33%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>315</b>	<b>33%</b>
<span style="color: #4682B4;">●</span>	Night	<b>315</b>	<b>33%</b>

# Speed Profile

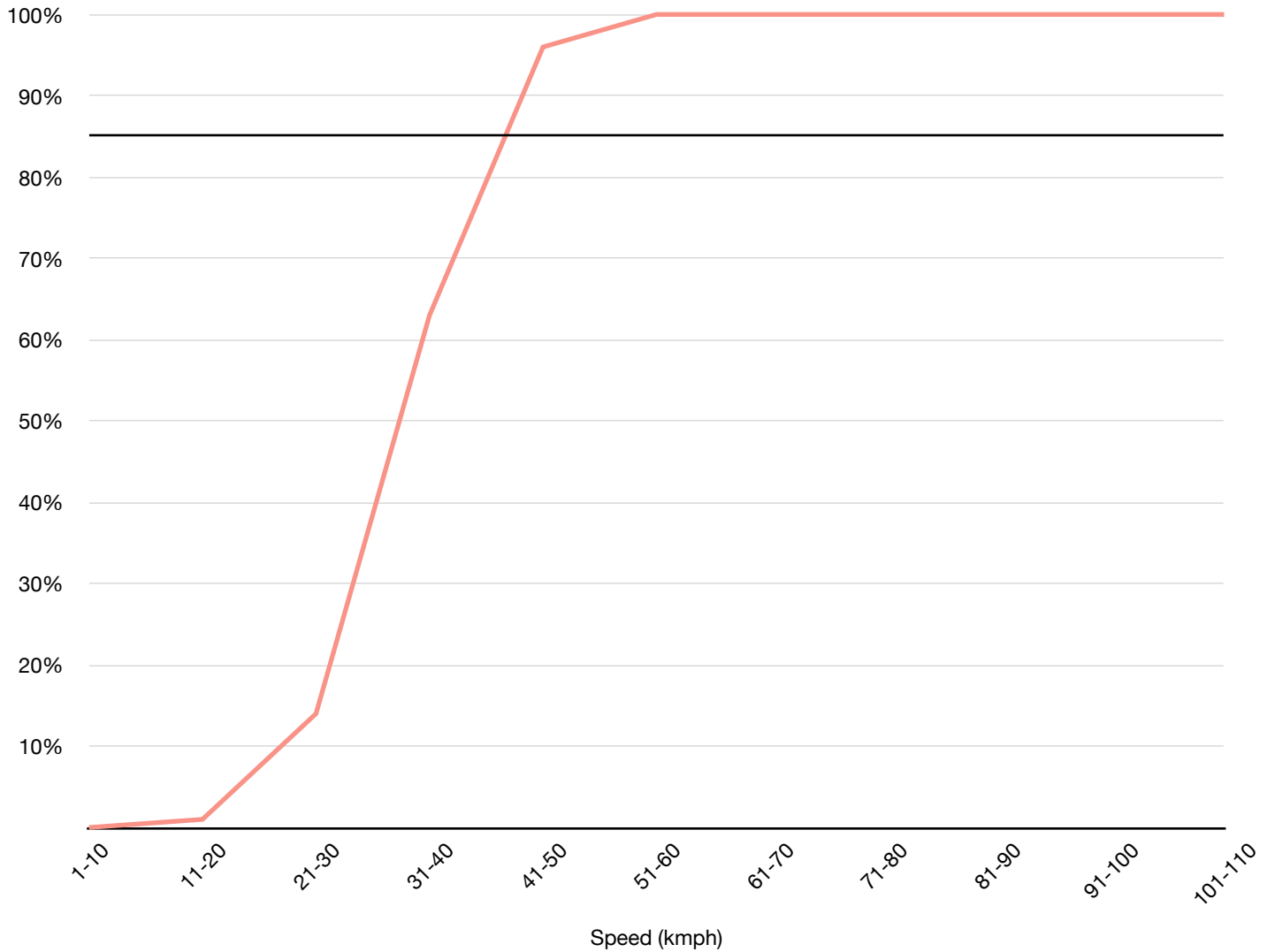
# Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 43 kmph.

# Speed Curve

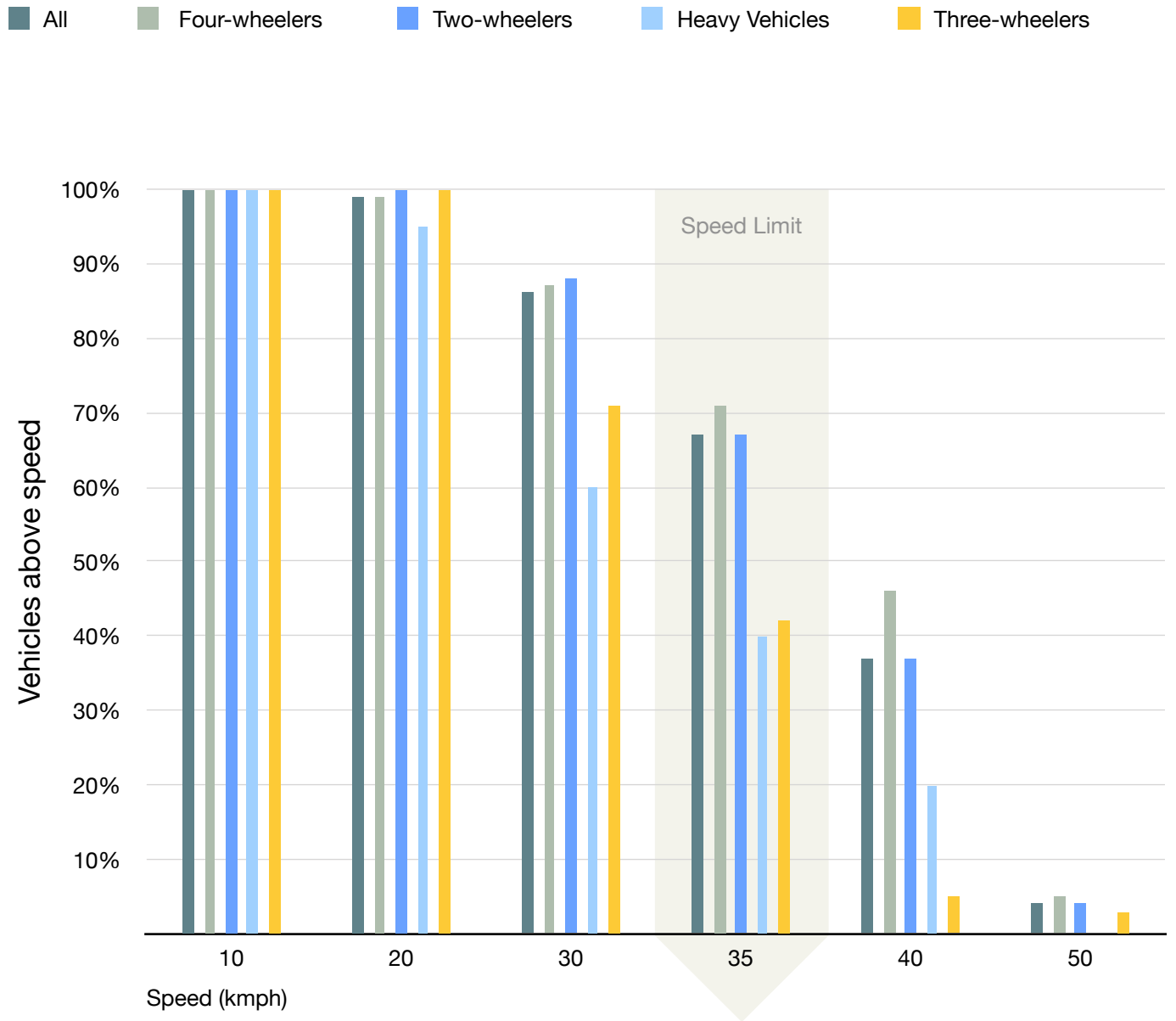
# Percent of vehicles below a speed range



The 85th percentile speed was 46 kmph. The maximum, i.e., 86% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle



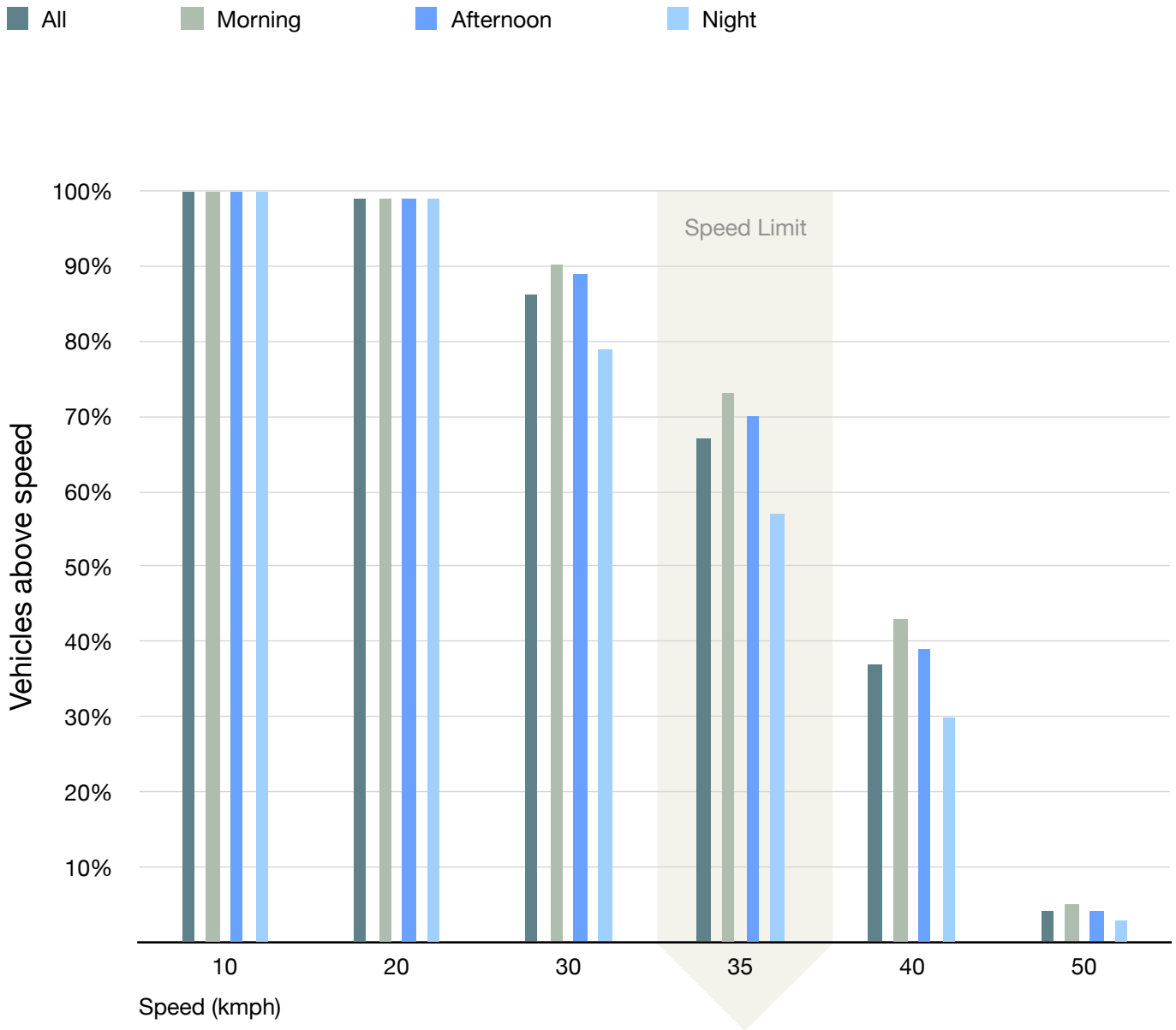
Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	67%	71%	67%	40%	42%

We find that 67% vehicles exceed the designated speed limit. However, we find that at 40 kmph, far more four-wheelers exceed the speed (46%) followed by two-wheeler (37%) as compared to other vehicles.



# Speeding

## By time of day

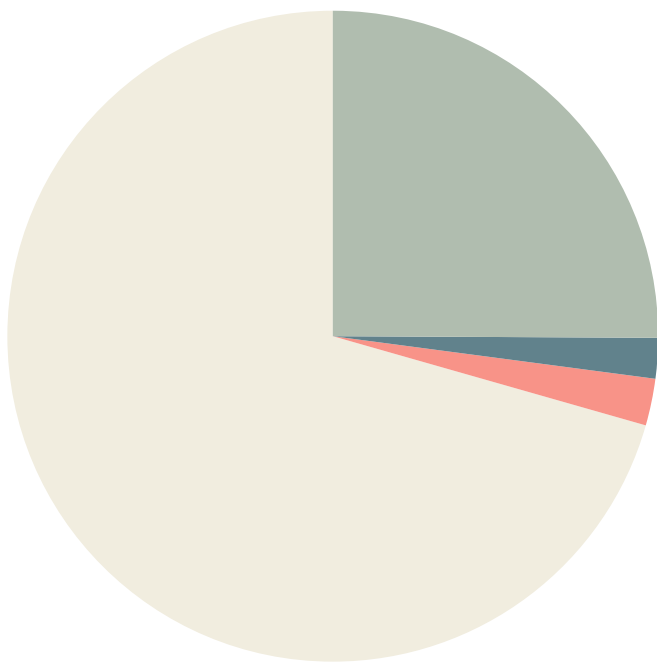


Speed limit	All	Morning	Afternoon	Night
35 kmph	67%	73%	70%	57%

We find that at Morning and Afternoon speeds tend to be higher at 73%/ 70%.

## Survey Profile

945 Vehicles

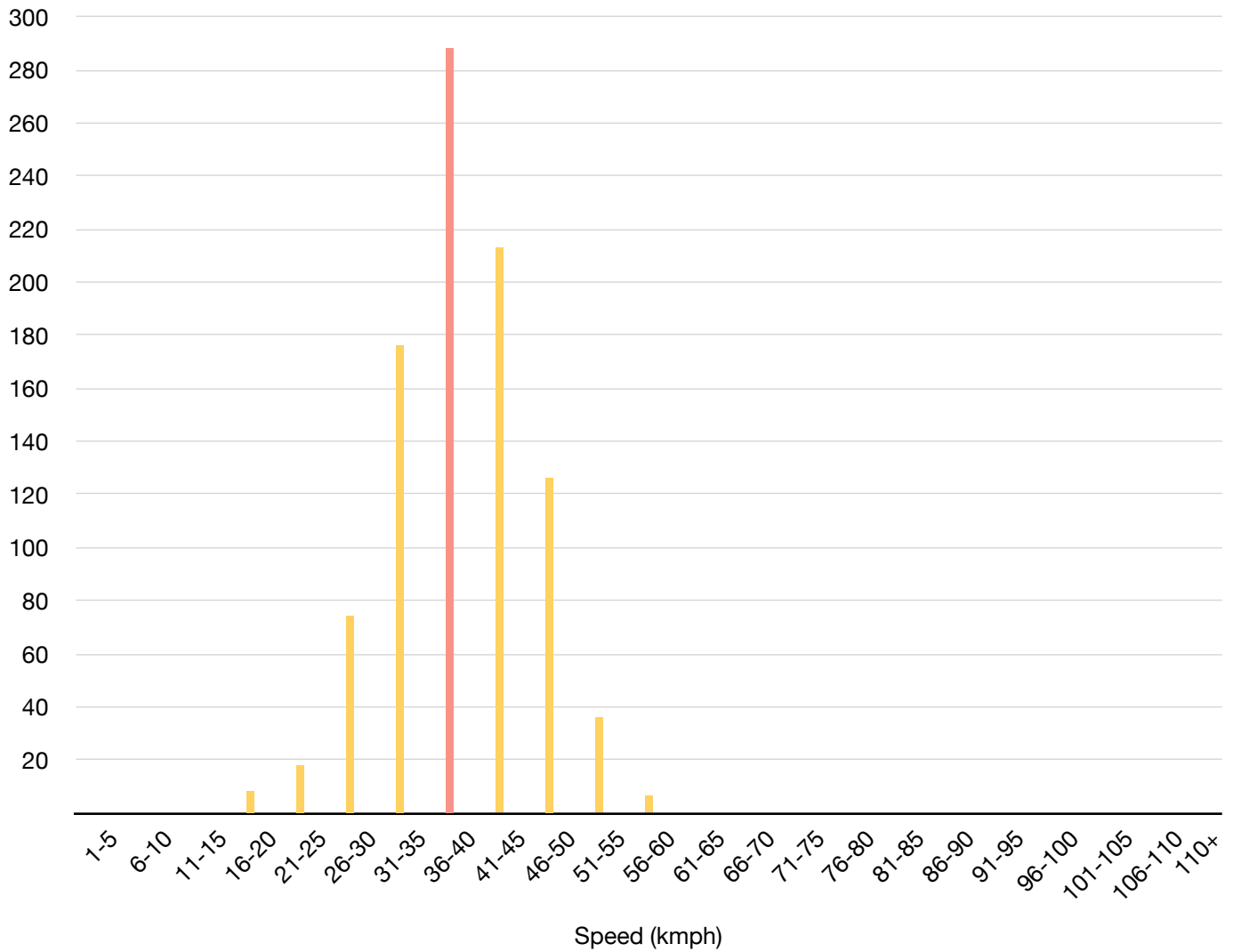


●	Four-Wheeler	237	25%
●	Heavy Vehicle	19	2%
●	Three-Wheeler	22	2%
●	Two-Wheeler	667	71%

●	Morning	315	33%
●	Afternoon	315	33%
●	Night	315	33%

## Speed Profile

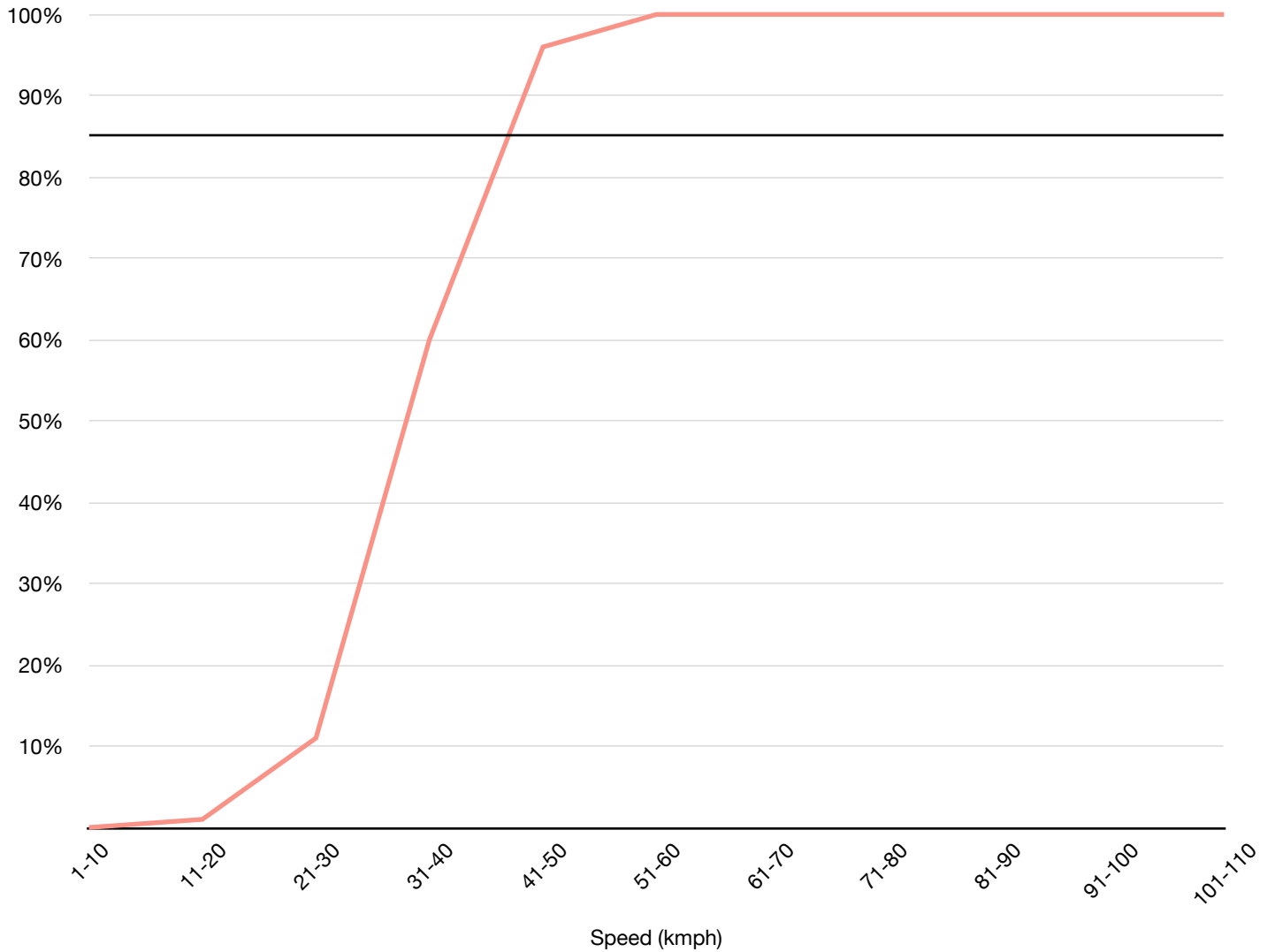
## Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 41 kmph.

# Speed Curve

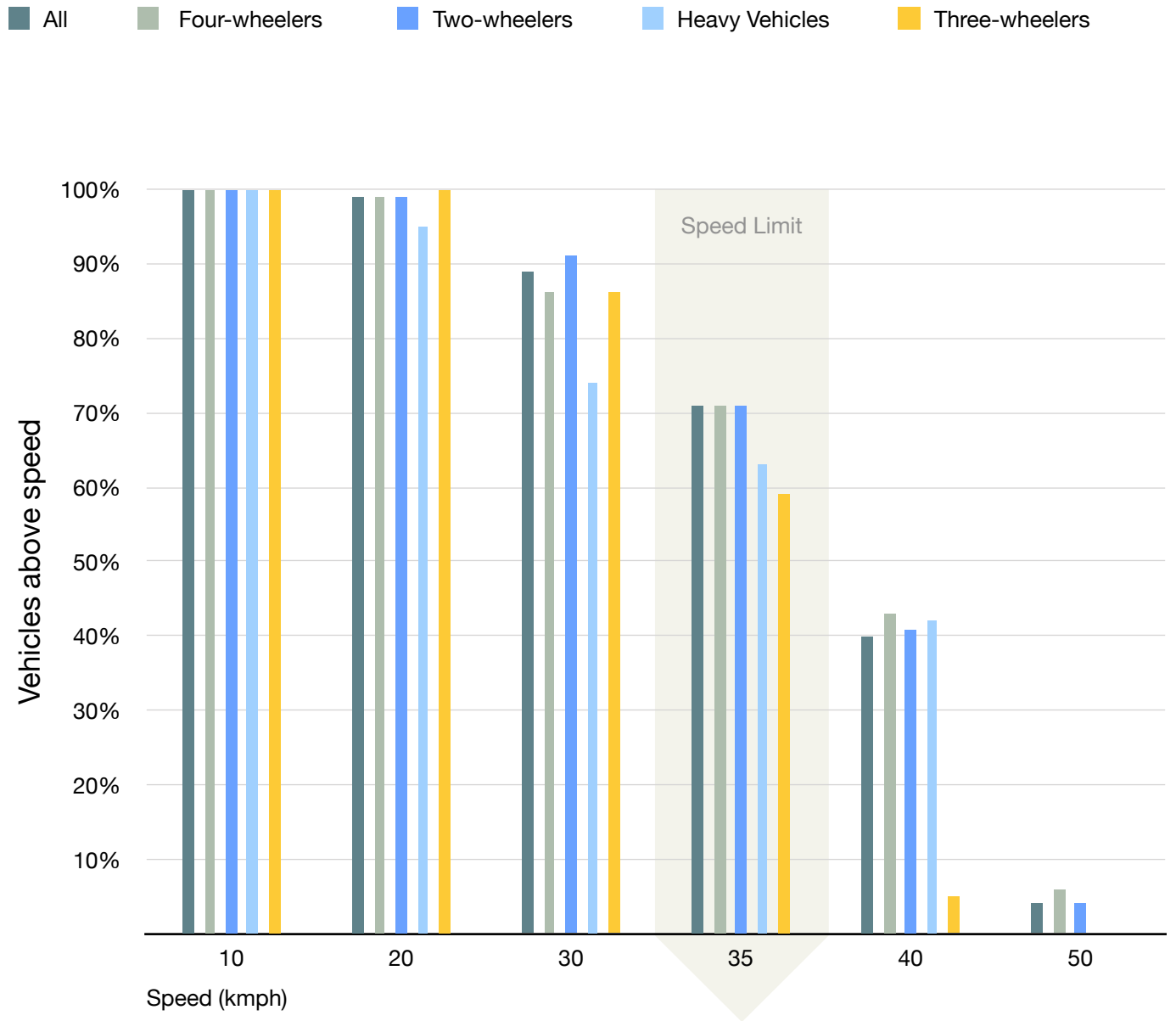
# Percent of vehicles below a speed range



The 85th percentile speed was 47 kmph. The maximum, i.e., 88% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

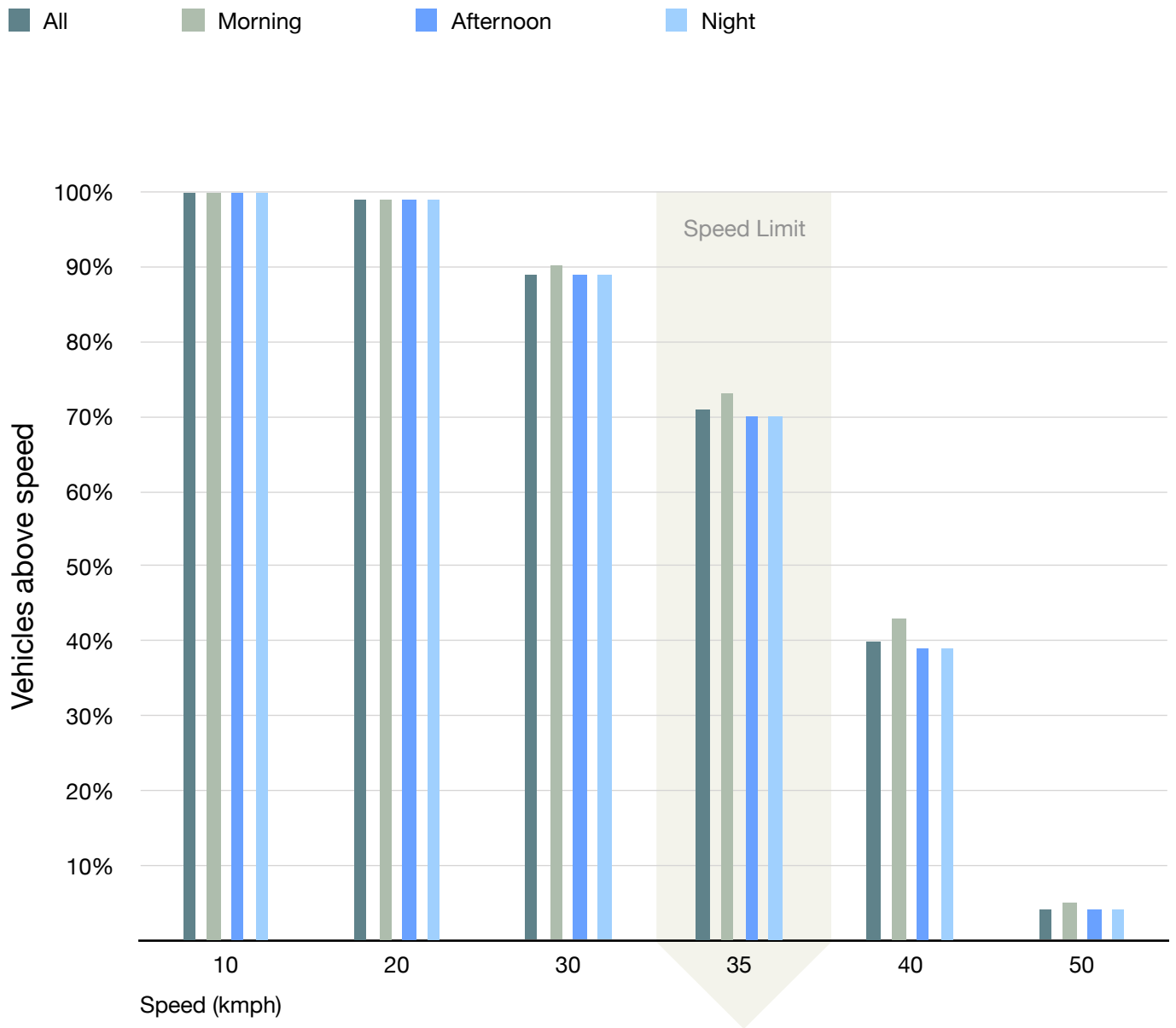


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
35 kmph	71%	71%	71%	63%	59%

We find that 71% vehicles exceed the designated speed limit.

# Speeding

## By time of day

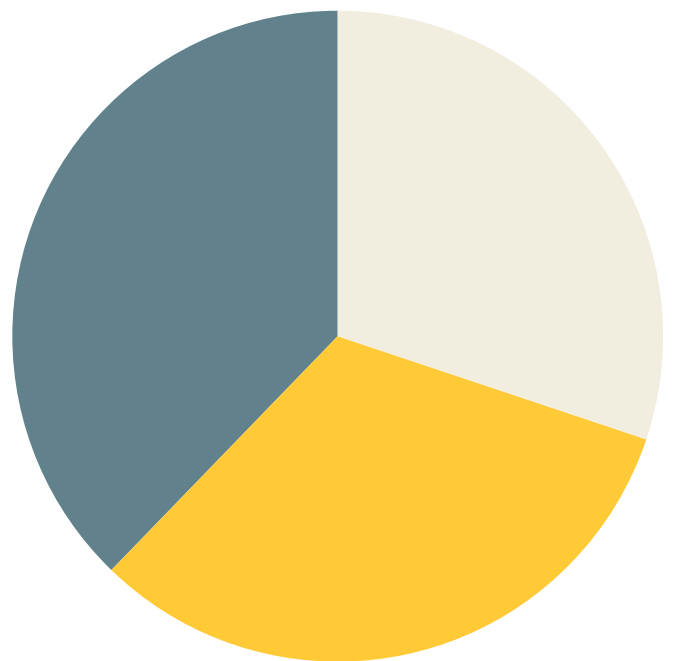
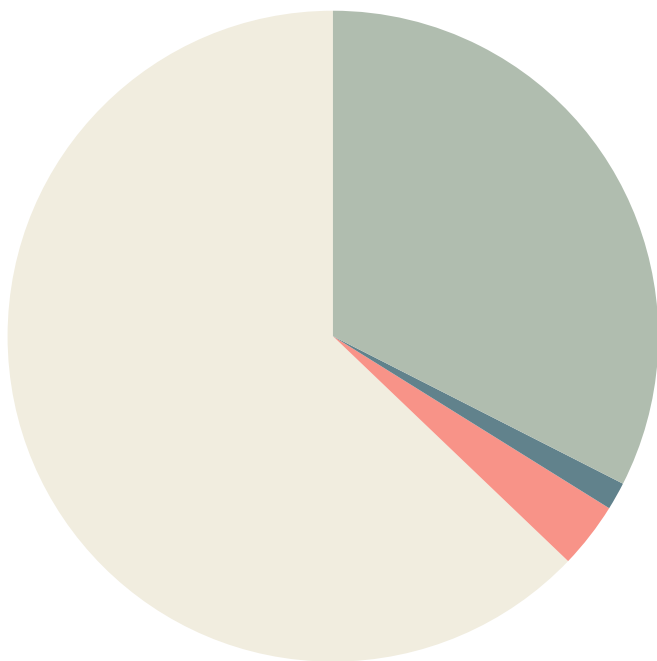


Speed limit	All	Morning	Afternoon	Night
35 kmph	71%	73%	70%	70%

We find that the speeds tend to be higher marginally in the morning.

## Survey Profile

945 Vehicles

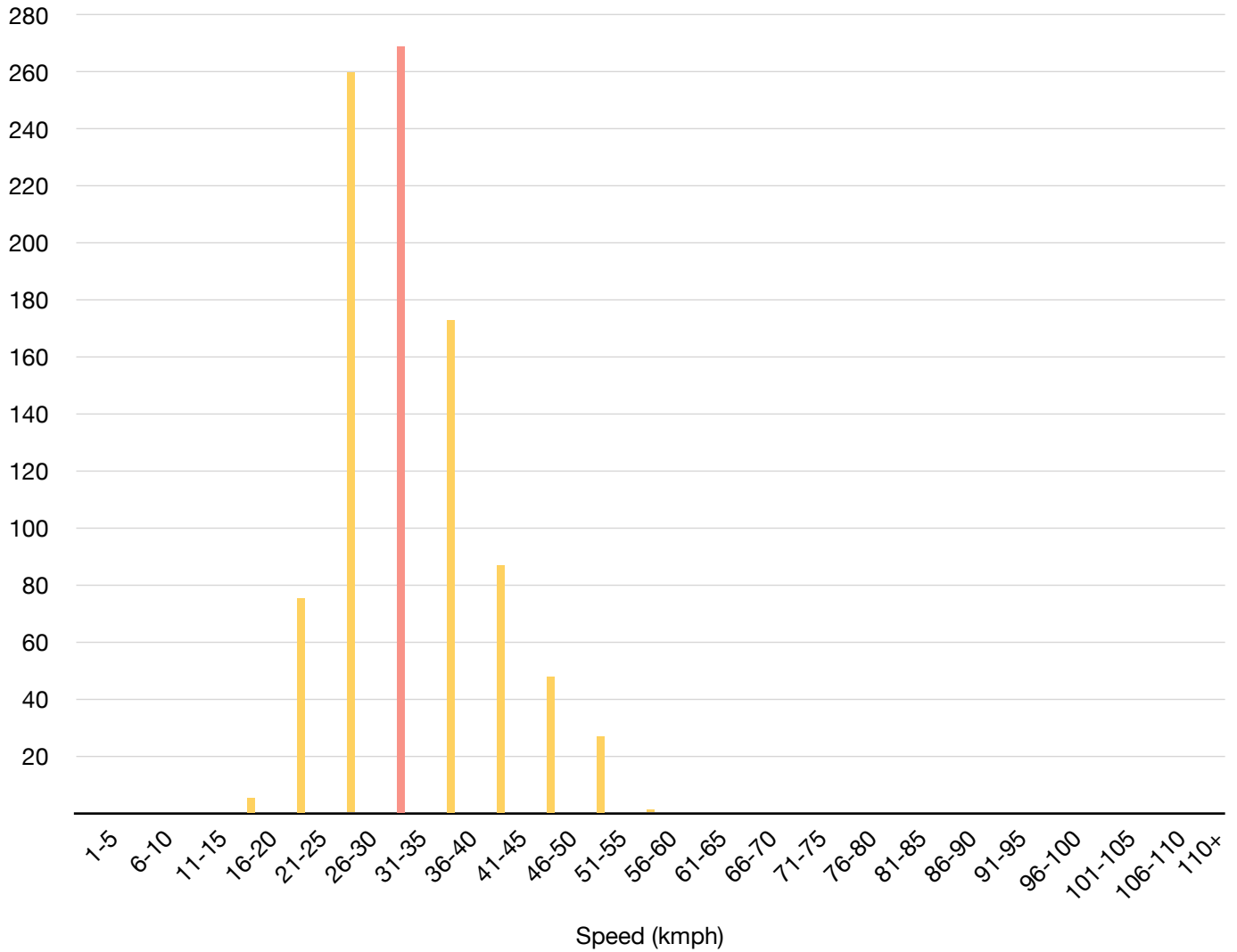


<span style="color: #808080;">●</span>	Four-Wheeler	<b>307</b>	<b>33%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>13</b>	<b>1%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>31</b>	<b>3%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>594</b>	<b>63%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>336</b>	<b>30%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>358</b>	<b>32%</b>
<span style="color: #4682B4;">●</span>	Night	<b>421</b>	<b>38%</b>

# Speed Profile

# Number of vehicles

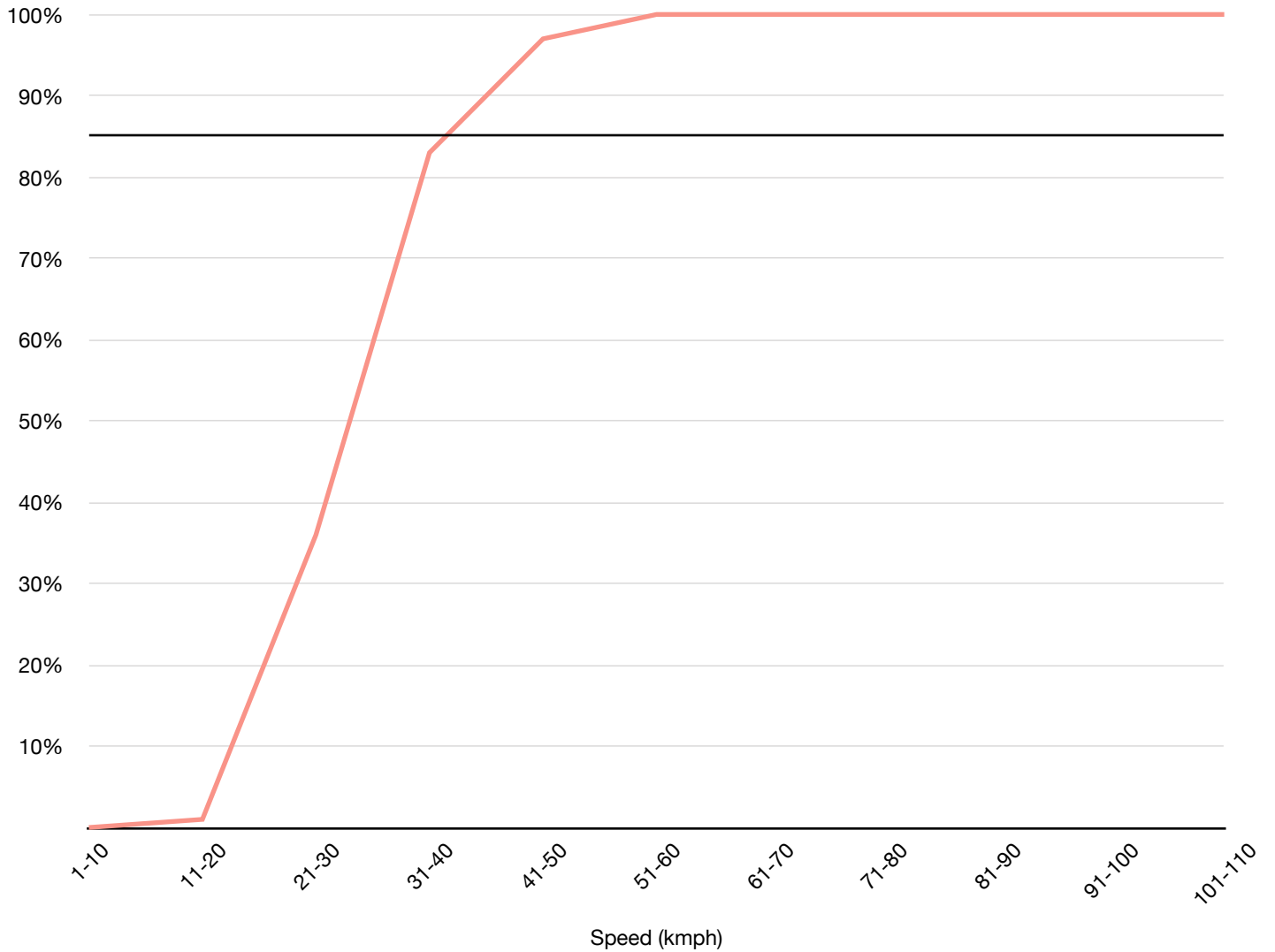


The maximum number of vehicles were travelling between 31-35 kmph, followed by 26-30 kmph. The highest number of vehicles were travelling at 30 kmph.



# Speed Curve

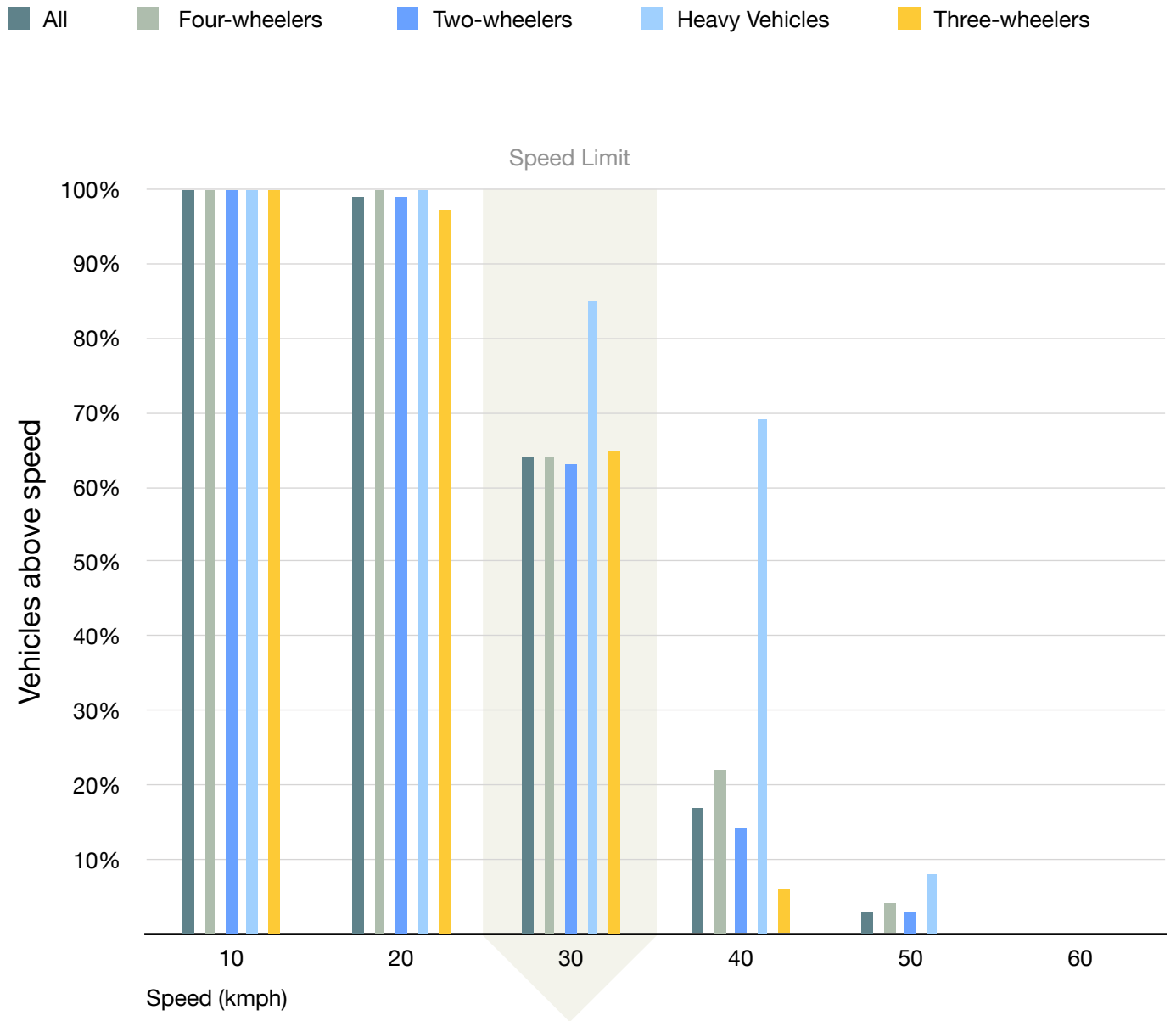
# Percent of vehicles below a speed range



The 85th percentile speed was 42 kmph. The maximum, i.e., 86% of vehicles were found to be travelling between 35 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

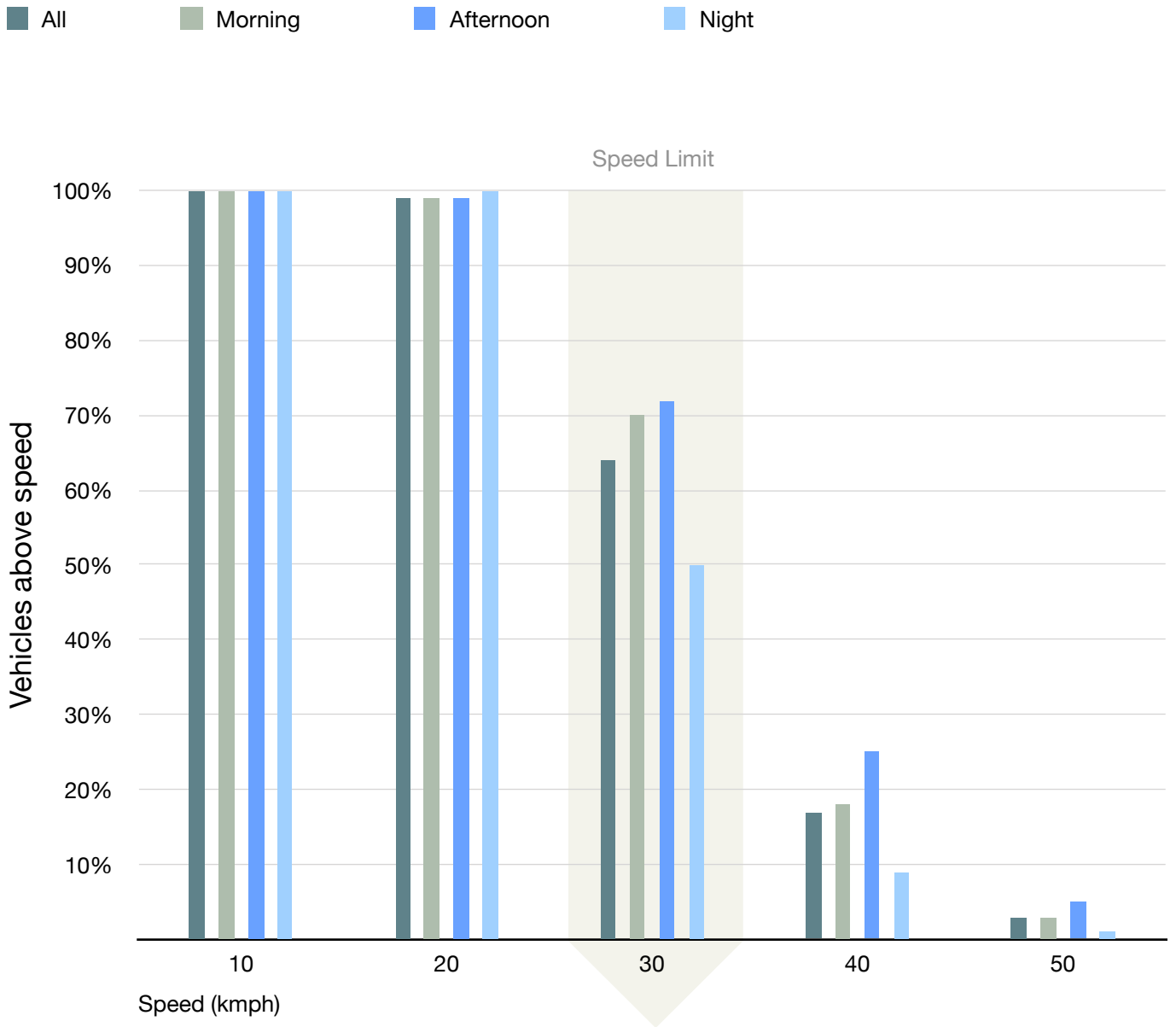


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	64%	64%	63%	85%	65%

We find that 64% vehicles exceed the designated speed limit. However, we find that heavy vehicles exceed the speed (85%) as compared to other vehicles.

# Speeding

## By time of day



Speed limit	All	Morning	Afternoon	Night
30 kmph	64%	70%	72%	50%

We find that that at afternoon speeds tend to be higher, with 72% of vehicles going above 30 kmph as compared to 70%/50% in the morning and night.

# Aurangabad

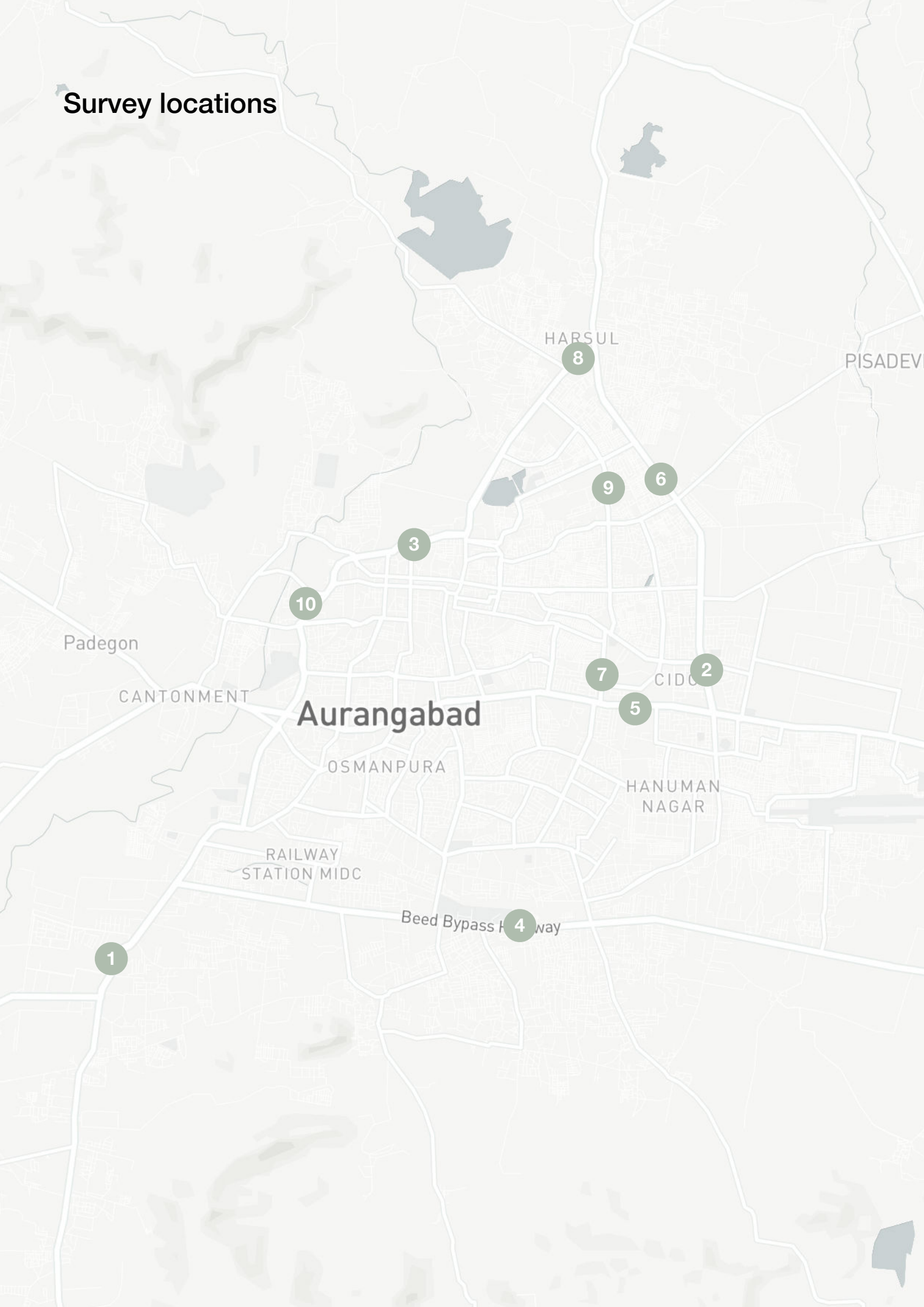
DECEMBER 2020

The survey was conducted on  
10 roads in the city of  
Aurangabad

#	Road	No. Of vehicles surveyed	Survey Location	Posted Speed Limit (kmph)
1	Aurangabad Paithan road	1444	Ithkheda Paithan Road	30* / 40
2	Aurangabad Jalgoan road	1068	Town Centre, CIDCO	40
3	Aurangabad VIP road	1488	Naralibaug, Aurangabad	40
4	Aurangabad Beed bypass	935	Darshan Vihar, Mahad Colony	40
5	Aurangabad Jalna road	1411	Jalna Road, N3, CIDCO	40
6	Aurangabad Ahmednagar	1330	Aurangabad Ahmednagar Road	40
7	Aurangabad MGM road	1245	Jal Colony, Vidya Nagar	40
8	Golwadi T Point	854	Harsul Road, Harsul	45
9	SP office Aurangabad	1325	HUDCO Road, TV Centre.	40
10	Aurangabad CP road	1483	Dr. B.A. Marg, Mil Corner	40
	<b>Total</b>	<b>12583</b>		

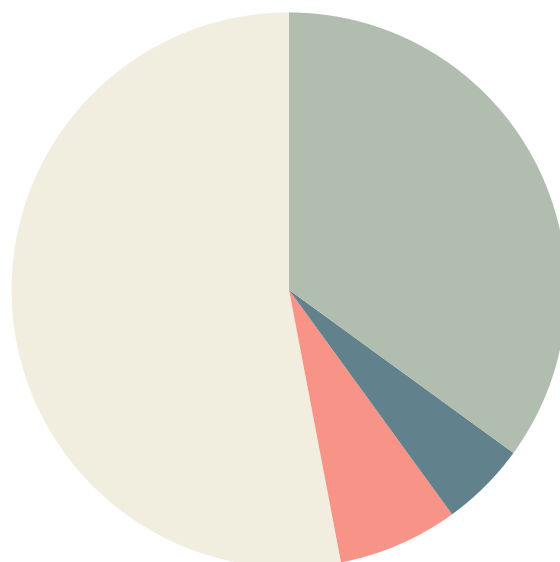
\* - (S1/S2) the designated speed is S1, but at such low speed limits all (100%) vehicles are found in violation, hence for analysis the speed S2 is considered.

# Survey locations



## Vehicles Surveyed - type

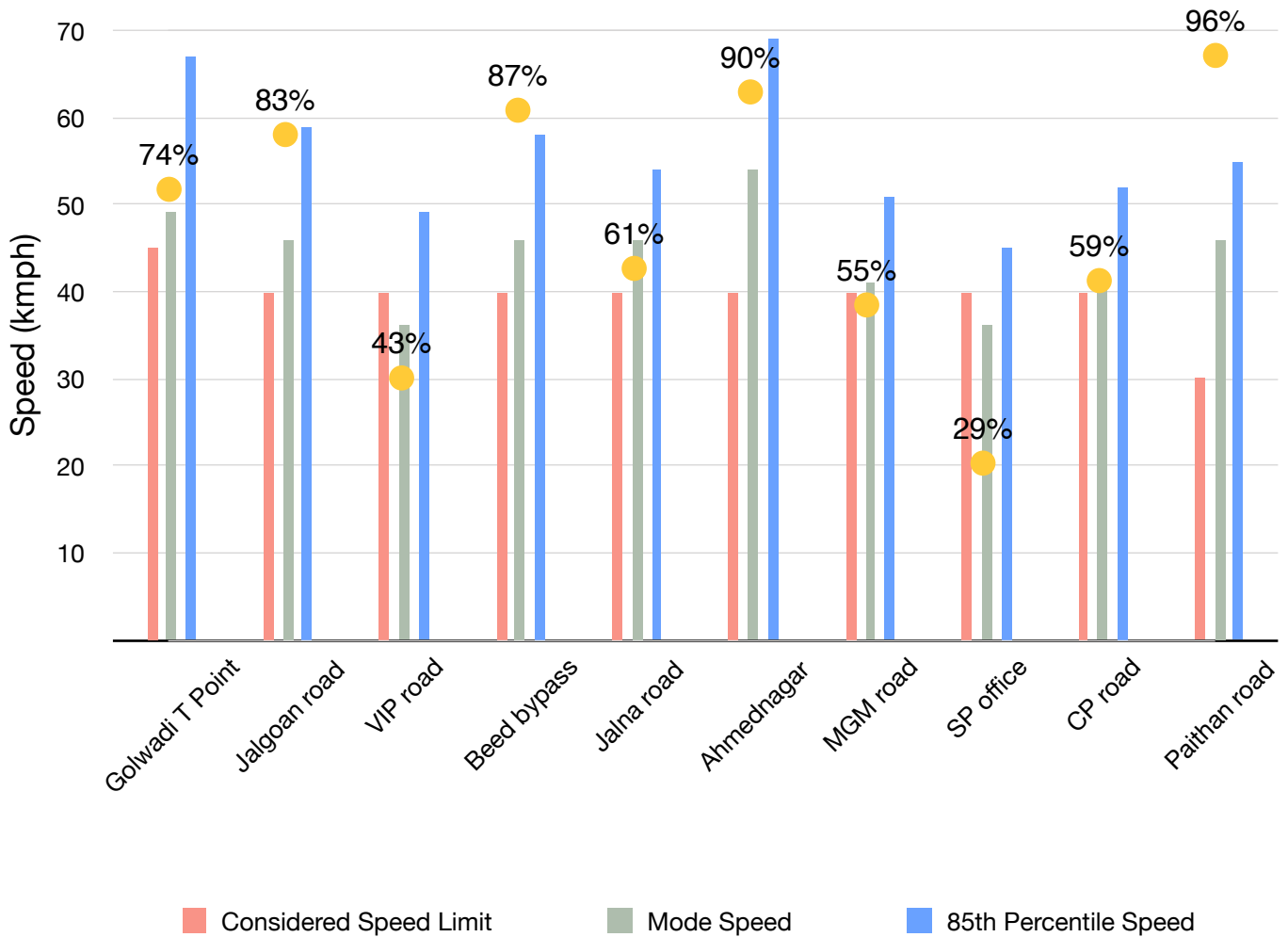
●	Four-Wheeler	35%
●	Heavy Vehicle	5%
●	Three-Wheeler	7%
●	Two-Wheeler	53%



## Results

#	Name of the street	Posted speed limit	Considered Speed Limit	Violation %	Speed Mode	85th perc speed	Excessive speed mode	Higher Speed Time
1	Aurangabad Paithan road	30	30	96%	46	55	4w	N
2	Aurangabad Jalgoan road	40	40	83%	46	59	4w,2w	M
3	Aurangabad VIP road	40	40	43%	36	49	4w	M
4	Aurangabad Beed bypass	40	40	87%	46	58	4w	A
5	Aurangabad Jalna road	40	40	61%	46	54	4w	M
6	Aurangabad Ahmednagar	40	40	90%	54	69	4w	M
7	Aurangabad MGM road	40	40	55%	41	51	4w,HV	N
8	Golwadi T Point	45	45	74%	49	67	4w	M
9	SP office Aurangabad	40	40	29%	36	45	4w	A
10	Aurangabad CP road	40	40	59%	42	52	4w,HV	A

## Speed Limit - Mode Speed - 85th Percentile Speed Speed Violation%



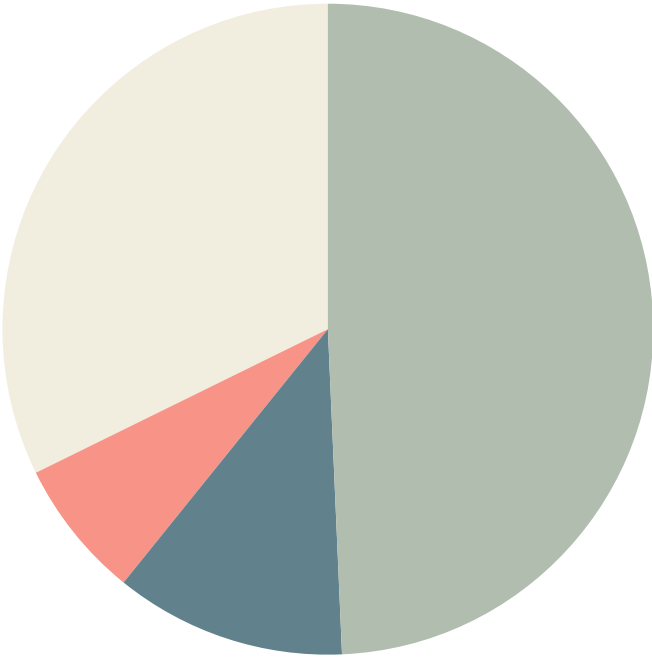
Most roads (7 out of 10) have speed violations ~60% or higher, with 2 roads (Aurangabad-Ahmednagar and Paithan roads) having more than 90% vehicles exceeding the speed limits.

Except for Paithan road, the maximum number of vehicles are travelling at a speed (speed mode) which is close to the speed limit.

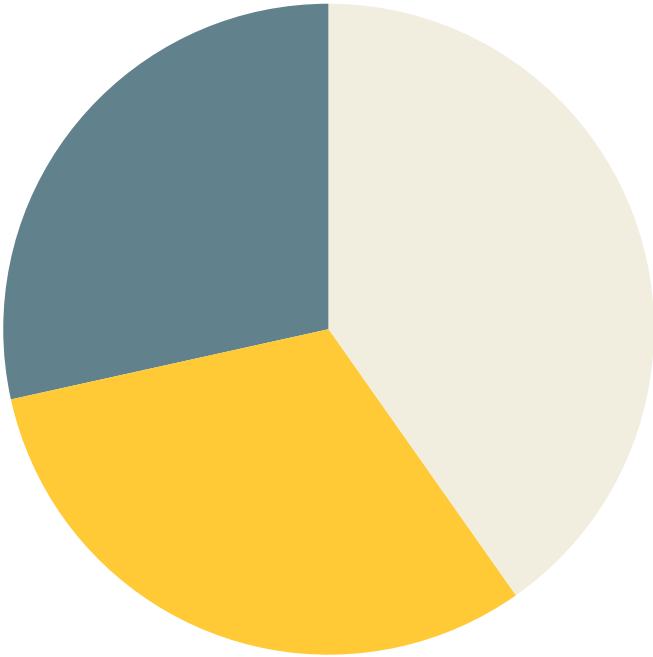
5 of the 10 roads had higher speeds in the morning, with 3 in the afternoon and 2 at night. On all roads four-wheelers were traveling at the most speed,

Survey Profile

1444 Vehicles



● Four-Wheeler	712	49%
● Heavy Vehicle	166	11%
● Three-Wheeler	100	7%
● Two-Wheeler	466	32%

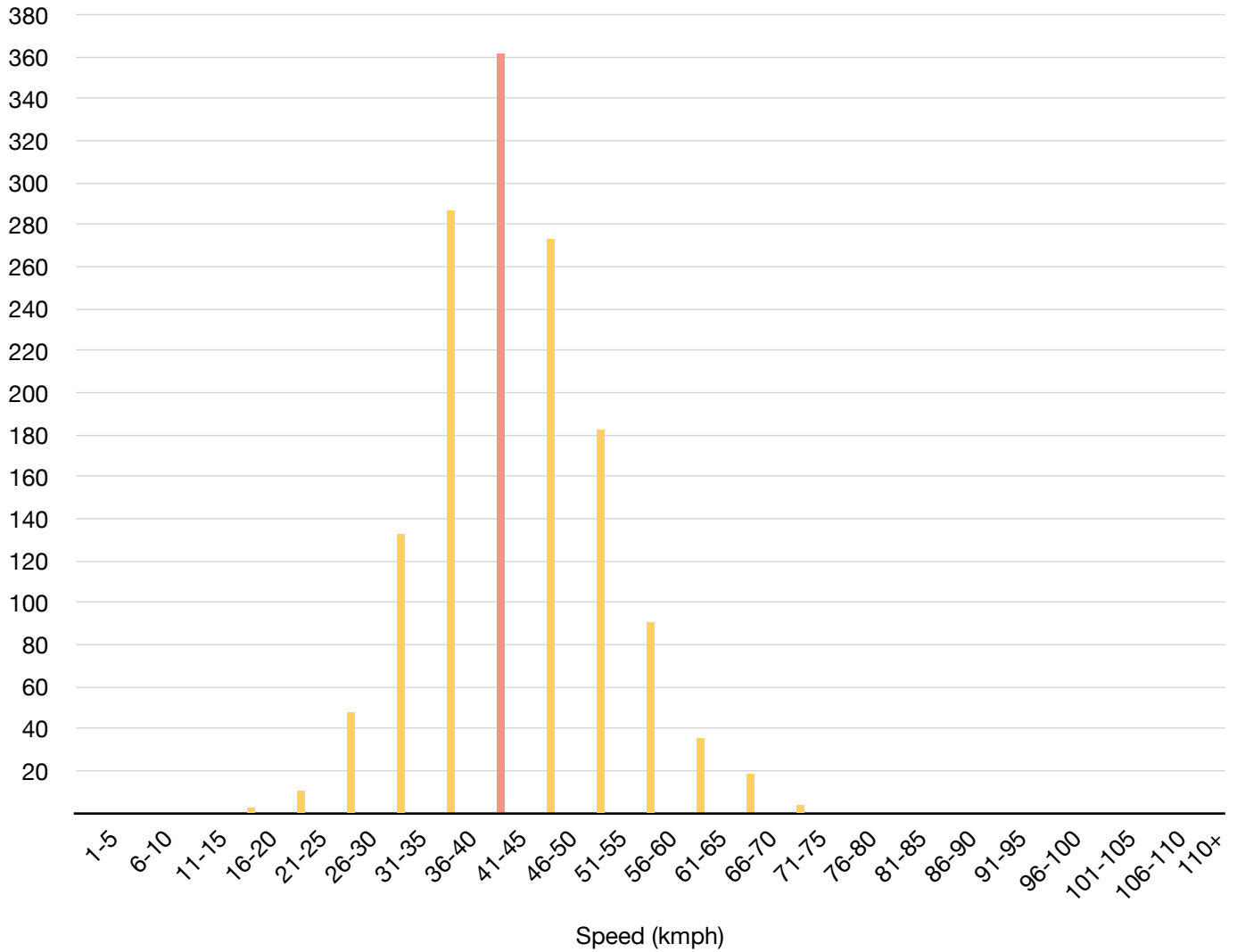


● Morning	581	40%
● Afternoon	452	31%
● Night	411	28%



# Speed Profile

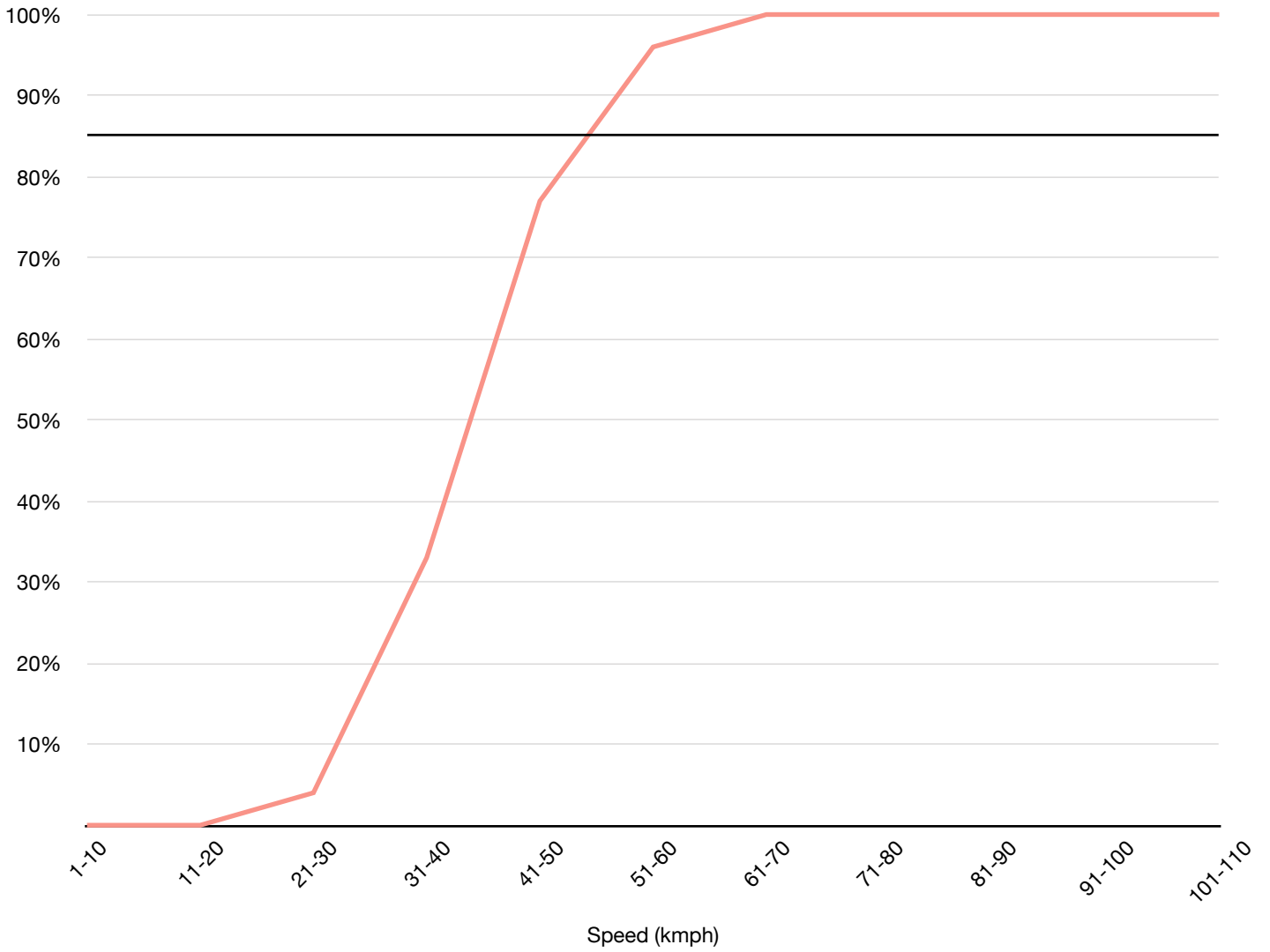
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 46 kmph.

# Speed Curve

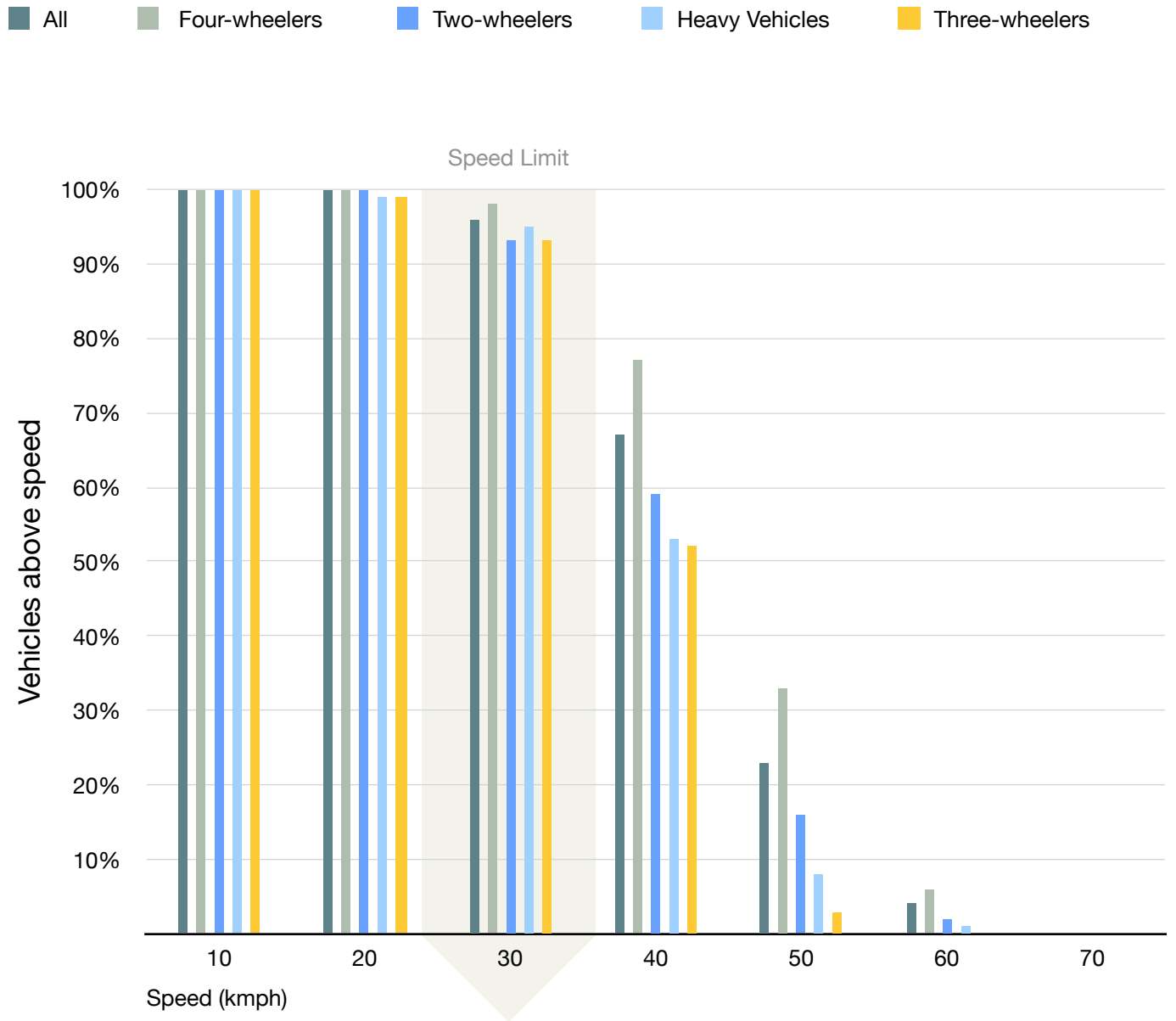
# Percent of vehicles below a speed range



The 85th percentile speed was 55 kmph. The maximum, i.e., 76% of vehicles were found to be travelling between 45 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

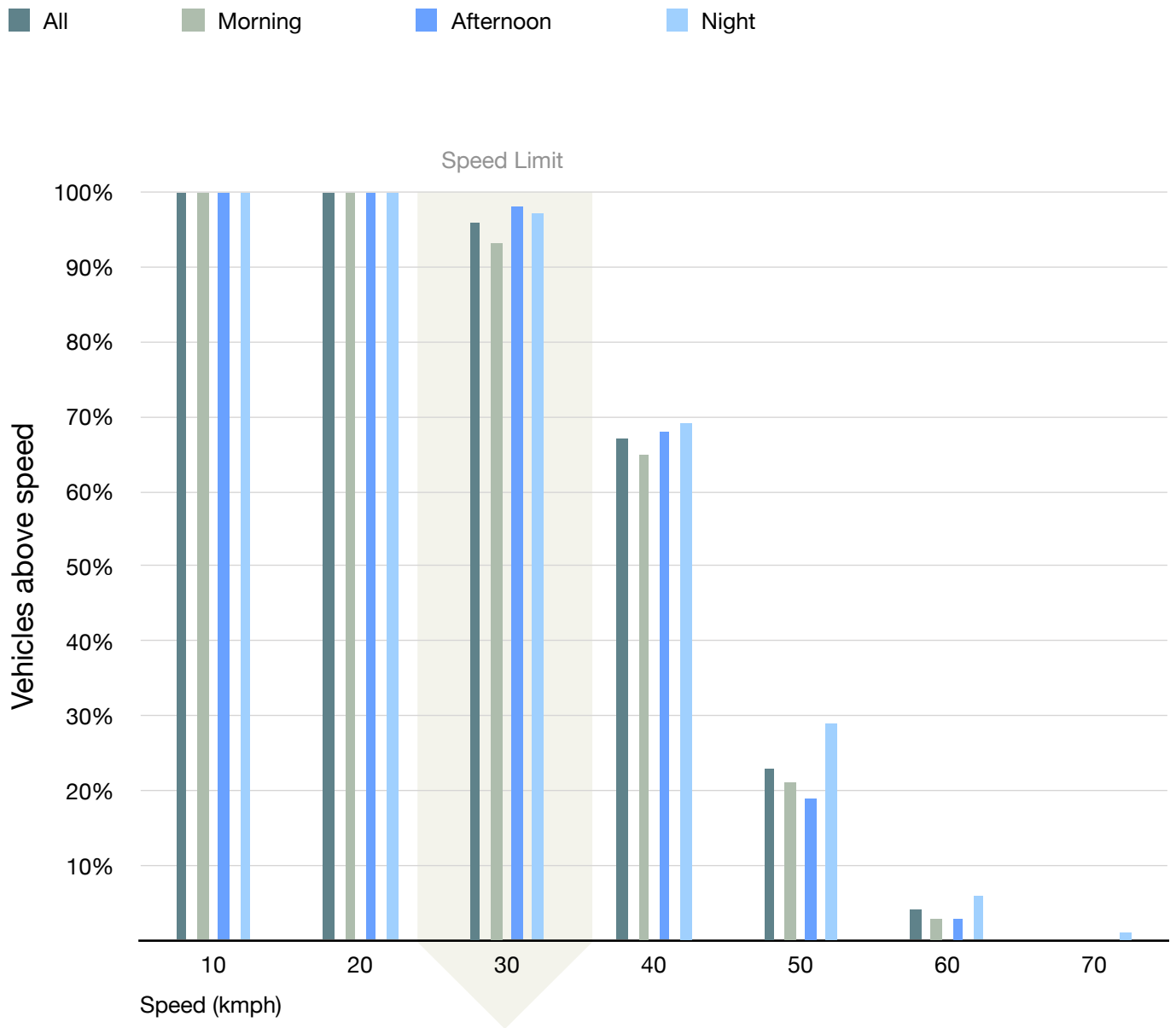


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
30 kmph	96%	98%	93%	95%	93%

We find that 96% vehicles exceed the designated speed limit. At higher speeds we can see that more four-wheelers tend to exceed speeds.

# Speeding

## By time of day

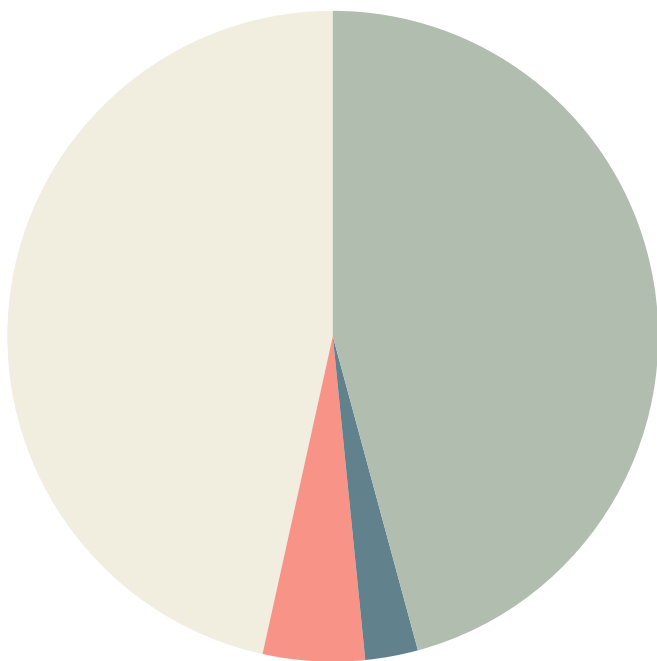


Speed limit	All	Morning	Afternoon	Night
30 kmph	96%	93%	98%	97%

We find that that at night speeds tend to be slightly higher.

## Survey Profile

1068 Vehicles

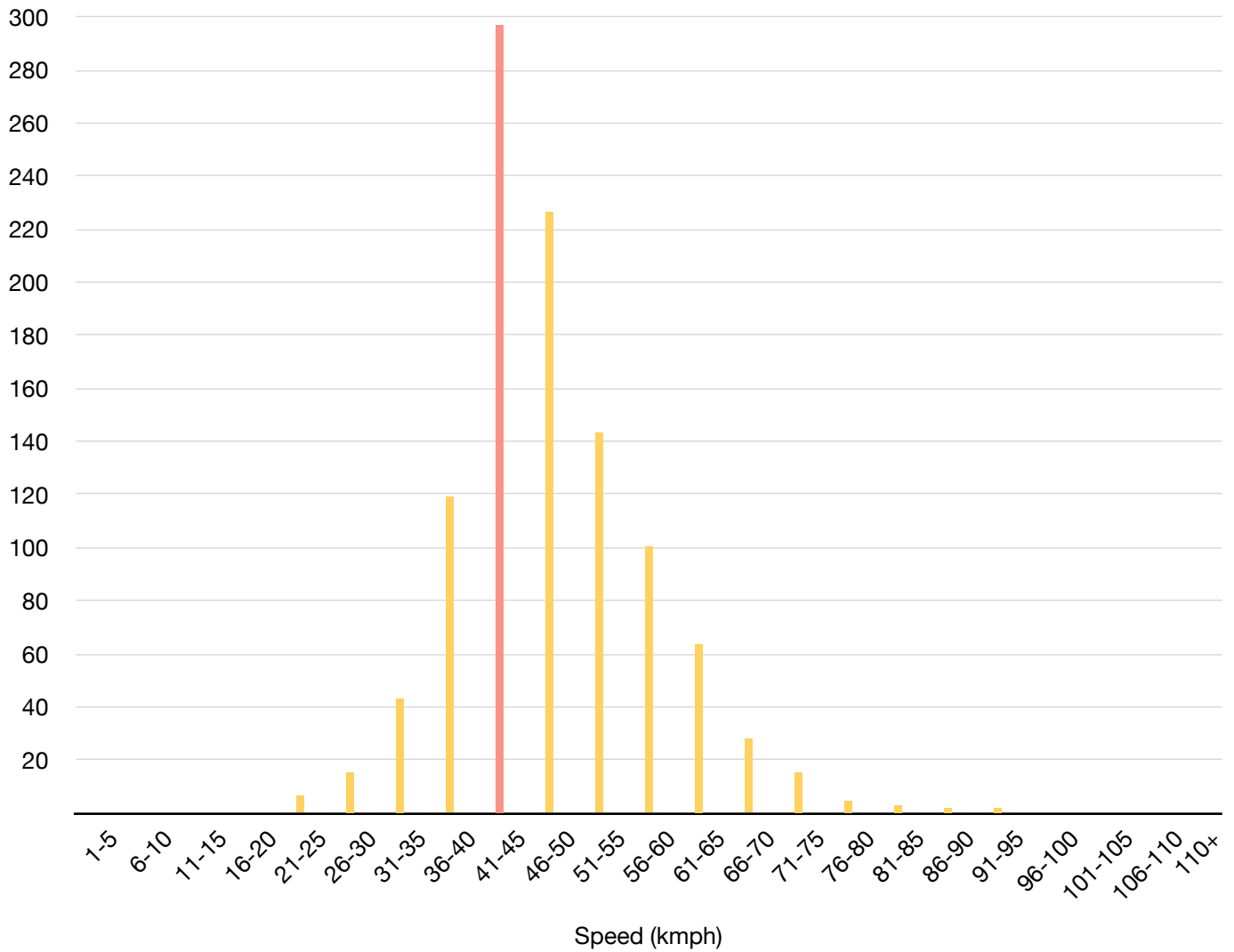


<span style="color: #808080;">●</span>	Four-Wheeler	<b>489</b>	<b>46%</b>
<span style="color: #4682B4;">●</span>	Heavy Vehicle	<b>28</b>	<b>3%</b>
<span style="color: #FF6347;">●</span>	Three-Wheeler	<b>54</b>	<b>5%</b>
<span style="color: #D2B48C;">●</span>	Two-Wheeler	<b>497</b>	<b>47%</b>

<span style="color: #D2B48C;">●</span>	Morning	<b>328</b>	<b>31%</b>
<span style="color: #FFD700;">●</span>	Afternoon	<b>363</b>	<b>34%</b>
<span style="color: #4682B4;">●</span>	Night	<b>377</b>	<b>35%</b>

# Speed Profile

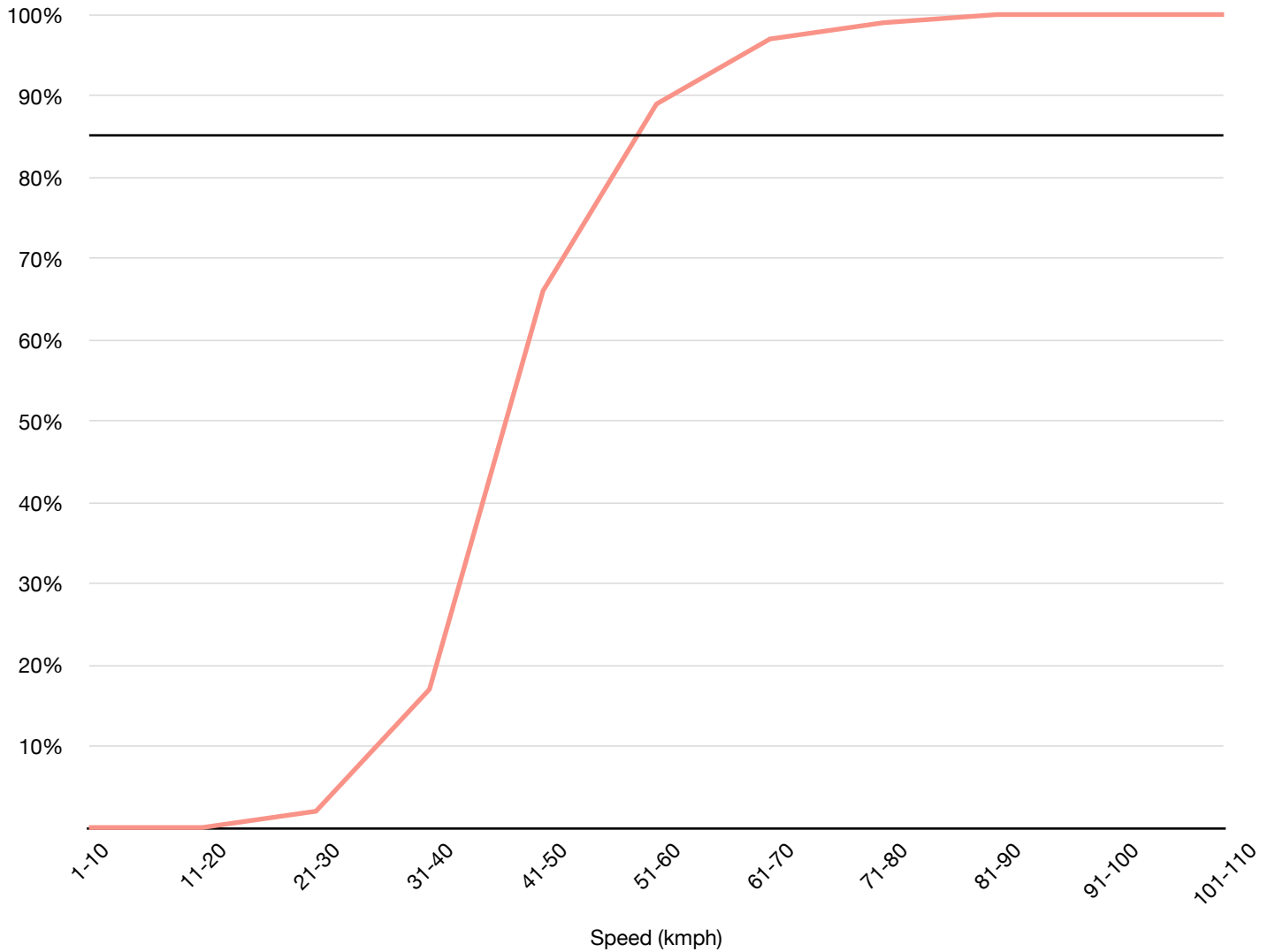
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 46-50 kmph. The highest number of vehicles were travelling at 46 kmph.

# Speed Curve

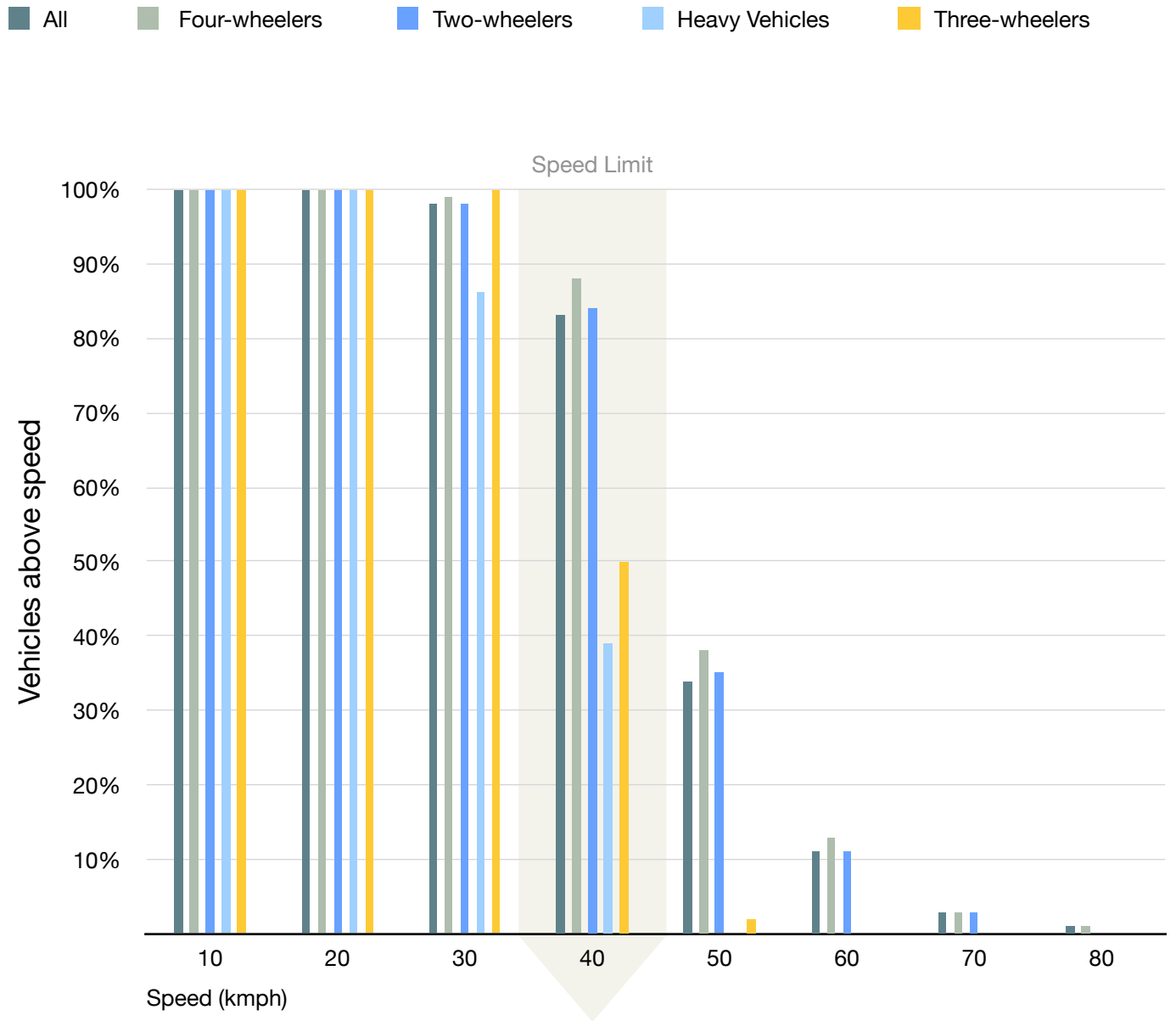
# Percent of vehicles below a speed range



The 85th percentile speed was 59 kmph. The maximum, i.e., 76% of vehicles were found to be travelling between 50 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle



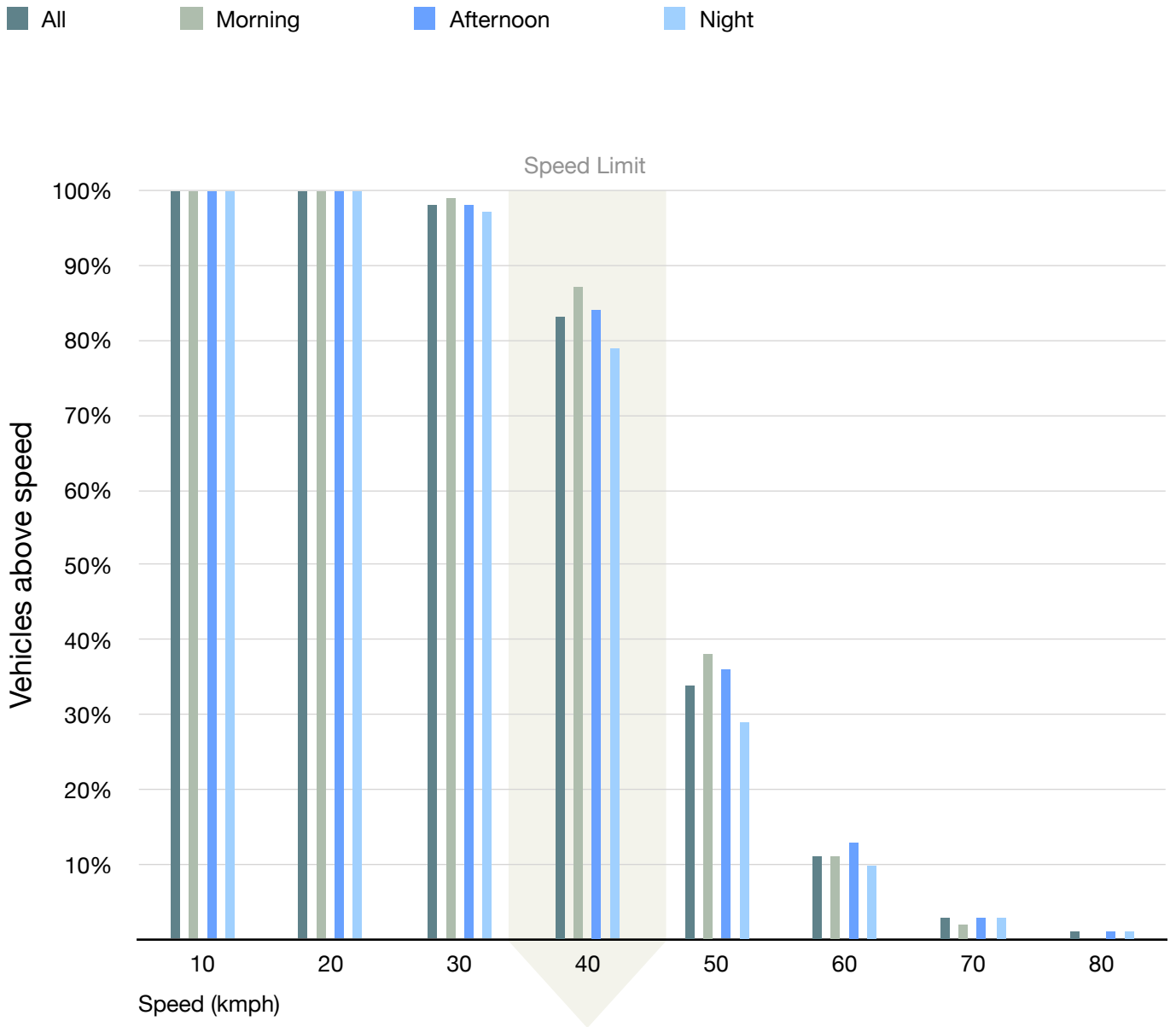
Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	83%	88%	84%	39%	50%

We find that 83% vehicles exceed the designated speed limit. Four-wheelers and two-wheelers exceed the speed limit much more than other vehicles.



# Speeding

## By time of day

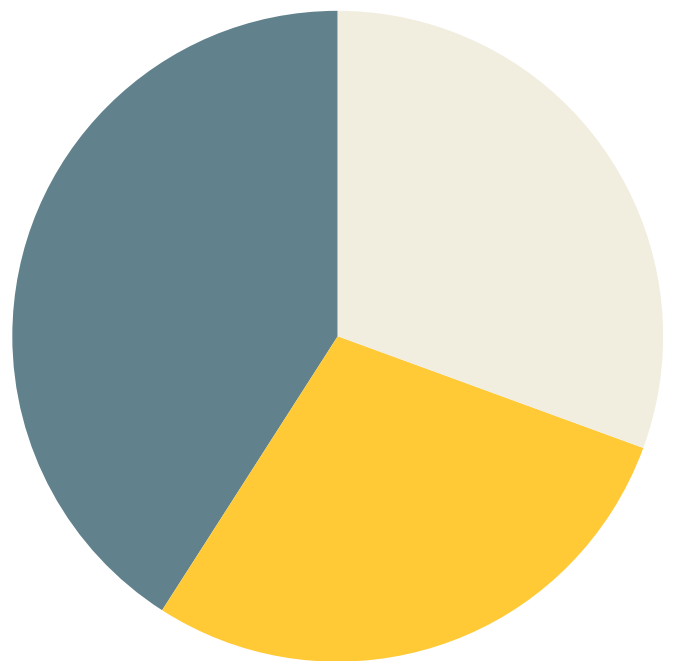
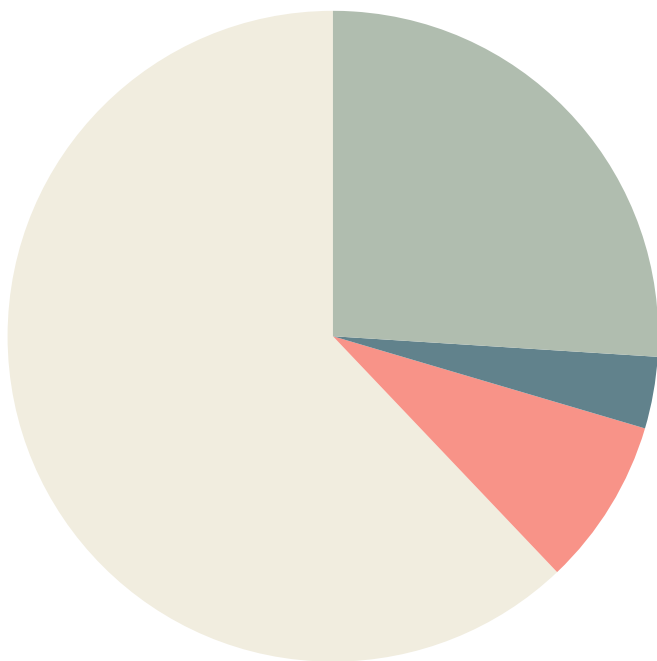


Speed limit	All	Morning	Afternoon	Night
40 kmph	83%	87%	84%	79%

We find that that at morning speeds tend to be slightly higher, with 87% of vehicles going above 40 kmph as compared to 84%/79% in the afternoon and night.

## Survey Profile

1488 Vehicles

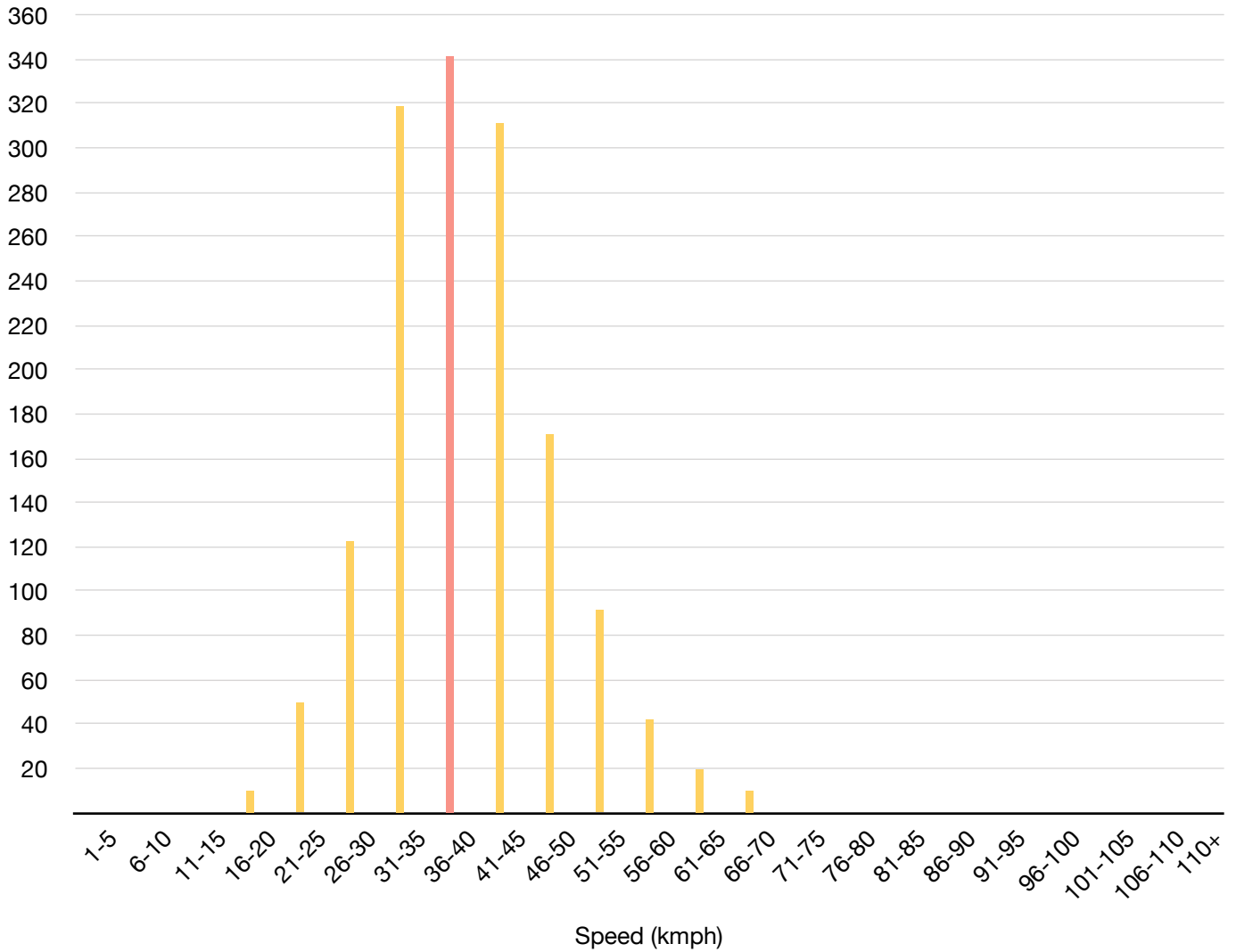


<span style="color: #808080;">●</span> Four-Wheeler	<b>387</b>	<b>26%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>53</b>	<b>4%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>124</b>	<b>8%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>924</b>	<b>62%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>455</b>	<b>31%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>424</b>	<b>28%</b>
<span style="color: #4682B4;">●</span> Night	<b>609</b>	<b>41%</b>

# Speed Profile

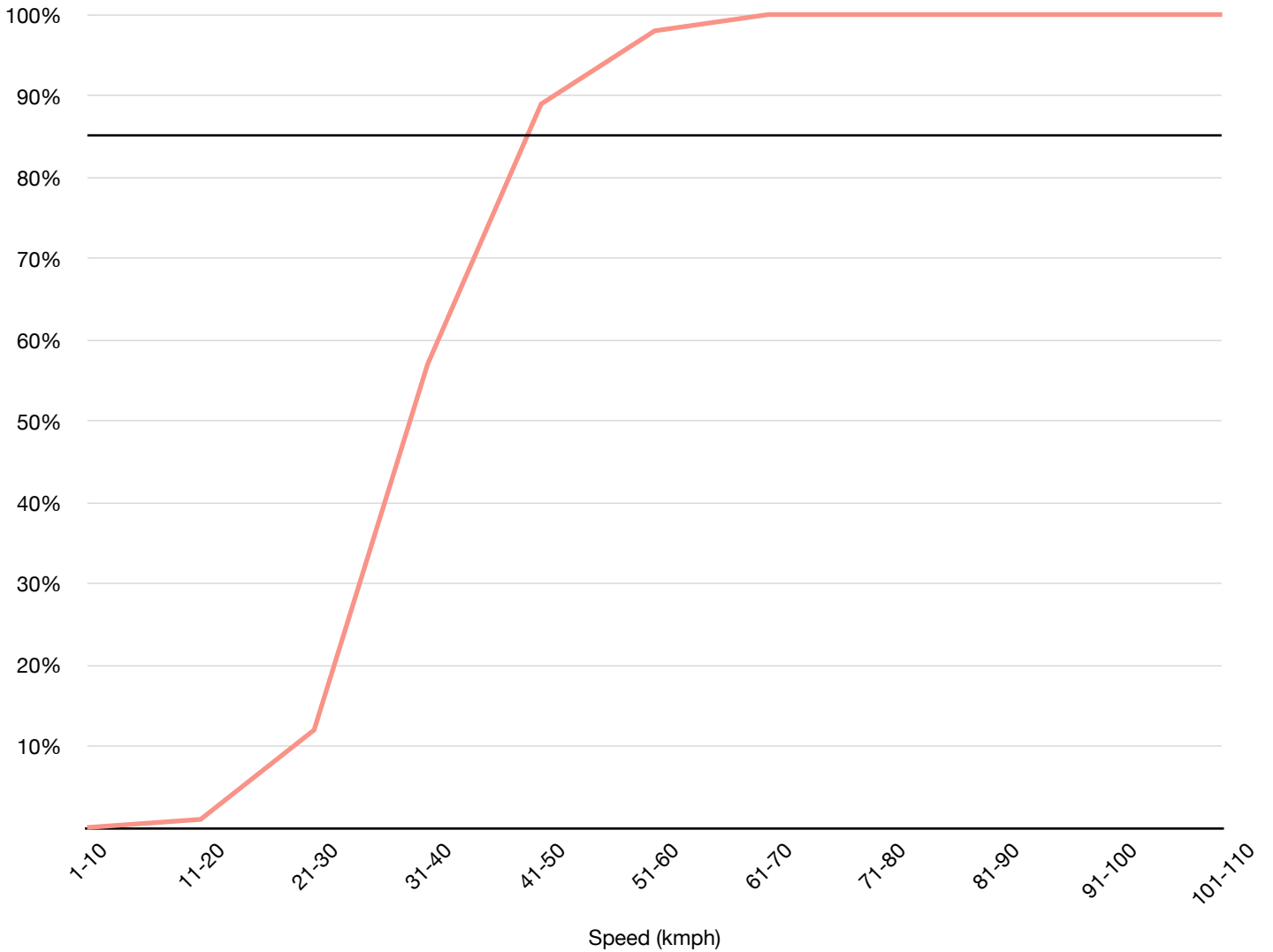
# Number of vehicles



The maximum number of vehicles were travelling between 36-40 kmph, followed by 31-35 kmph. The highest number of vehicles were travelling at 36 kmph.

# Speed Curve

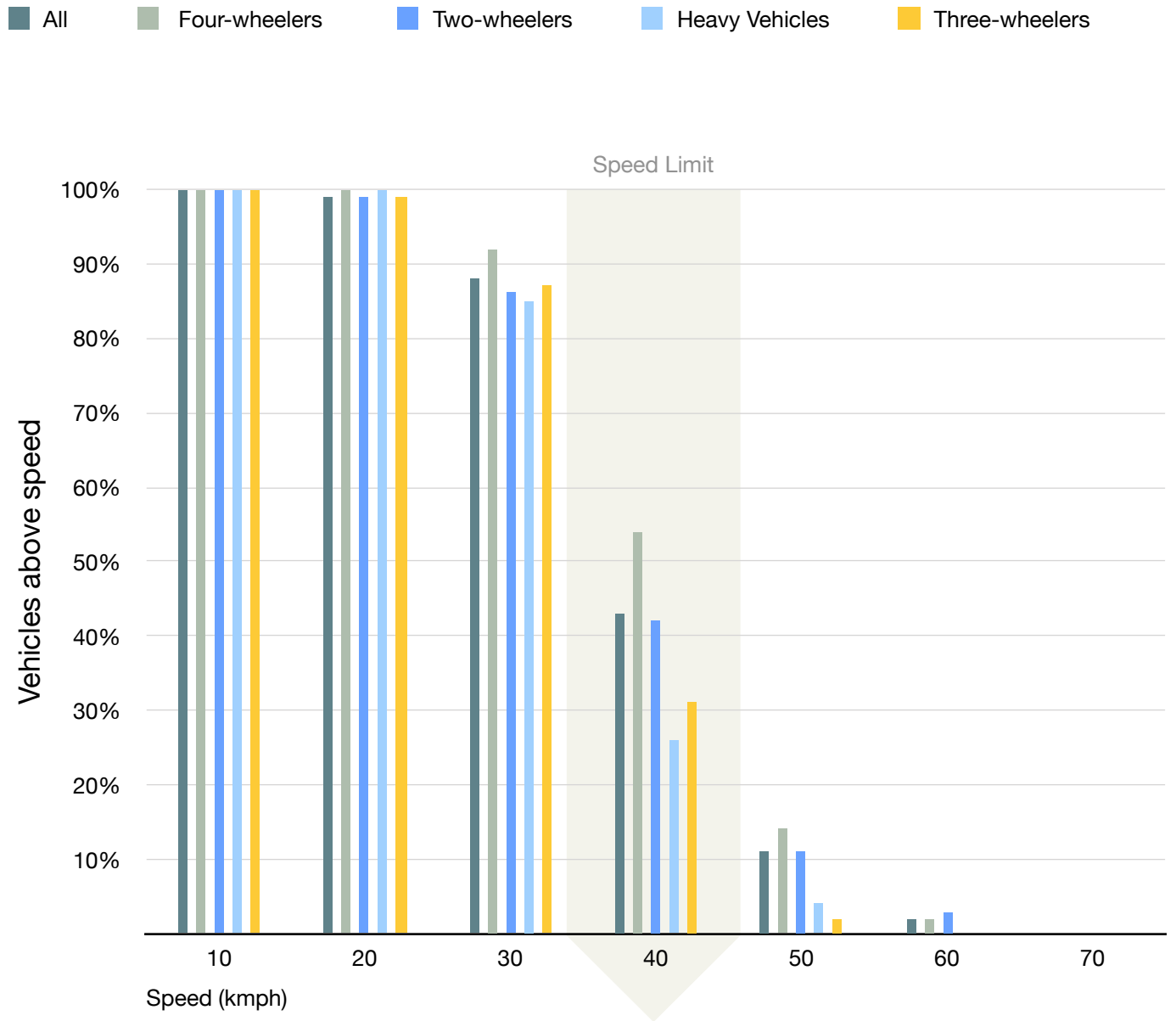
# Percent of vehicles below a speed range



The 85th percentile speed was 49 kmph. The maximum, i.e., 78% of vehicles were found to be travelling between 40 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

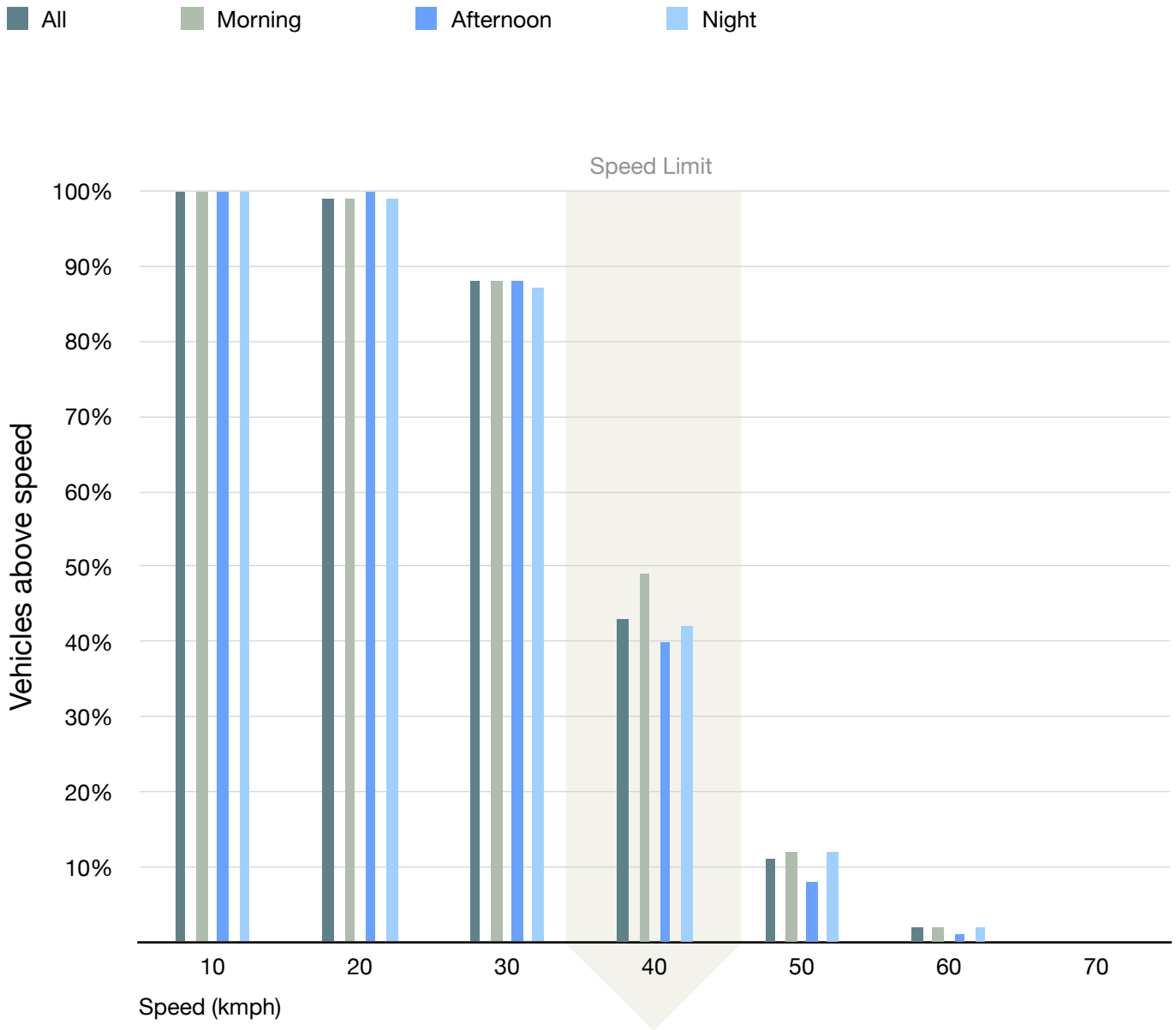


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	43%	54%	42%	26%	31%

We find that 43% vehicles exceed the designated speed limit whereas 54% four-wheelers exceed the speed.

# Speeding

## By time of day

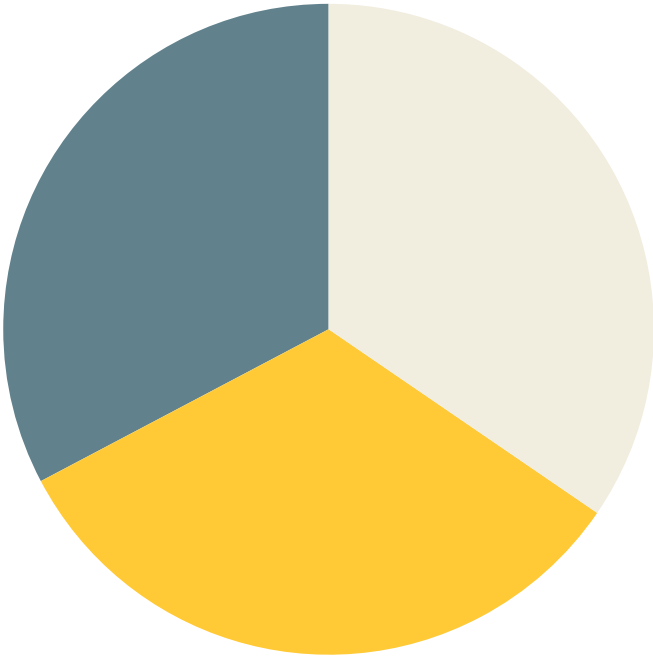
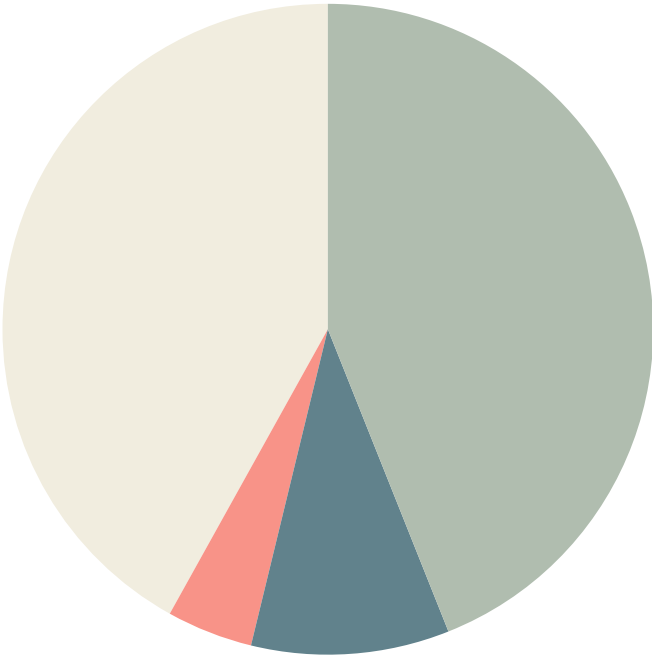


Speed limit	All	Morning	Afternoon	Night
40 kmph	43%	49%	40%	42%

We find that that at morning speeds tend to be higher, with 49% of vehicles going above 40 kmph as compared to 40%/42% in the afternoon and night.

Survey Profile

935 Vehicles



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●	Four-Wheeler	411	44%
●	Heavy Vehicle	92	10%
●	Three-Wheeler	40	4%
●	Two-Wheeler	392	42%

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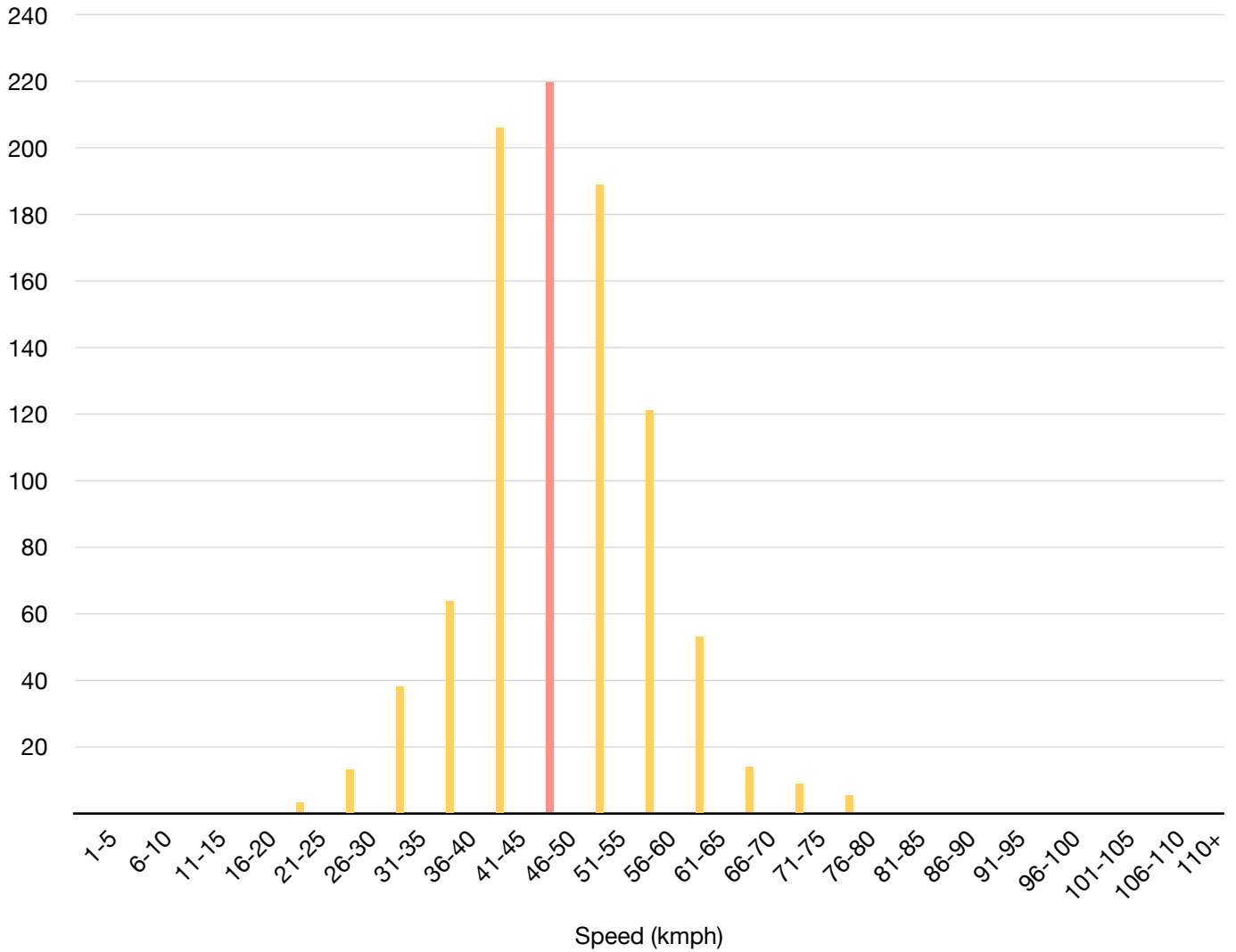
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●	Morning	323	34%
●	Afternoon	306	33%
●	Night	306	33%

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# Speed Profile

# Number of vehicles

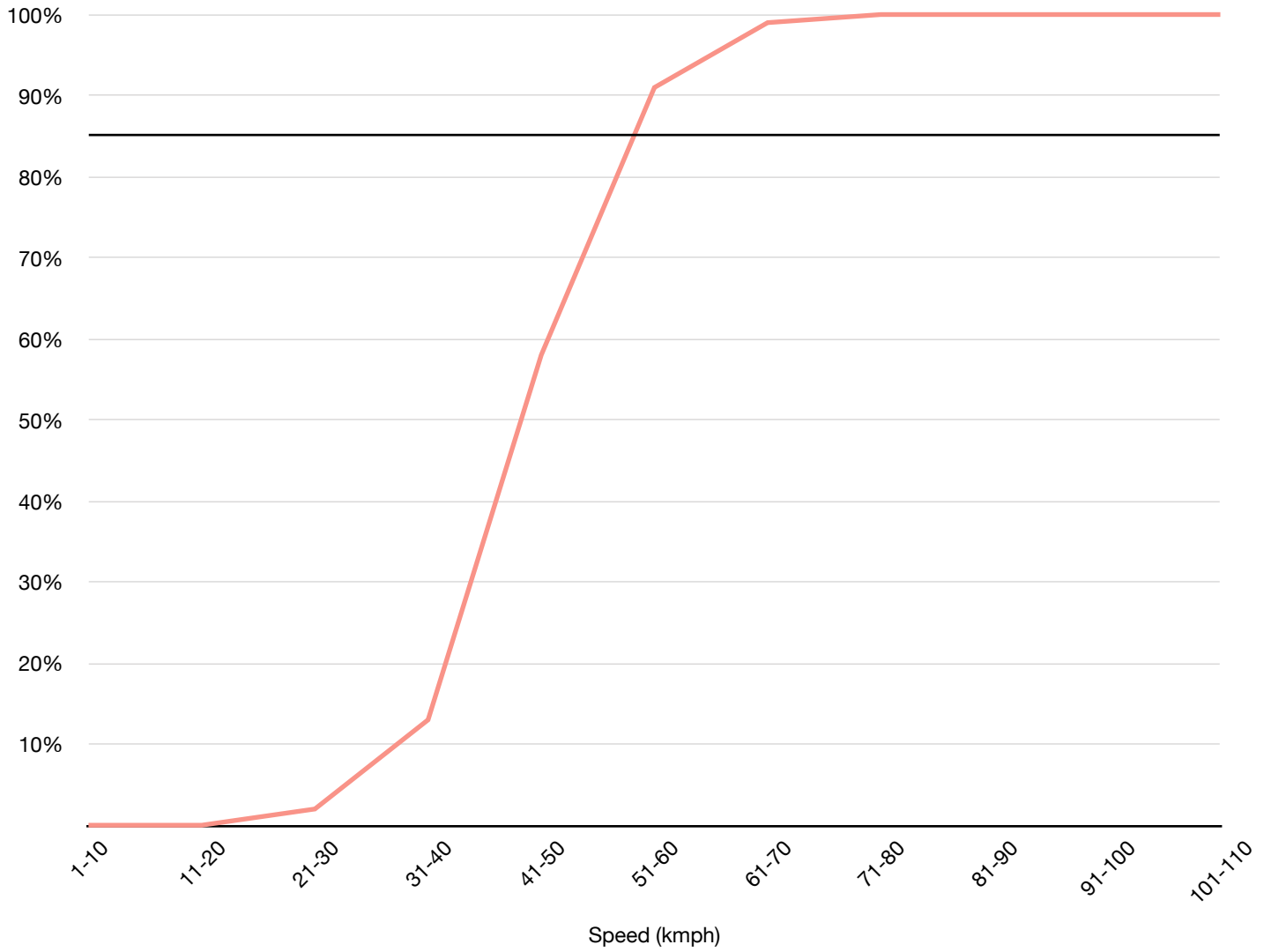


The maximum number of vehicles were travelling between 46-50 kmph, followed by 41-45 kmph. The highest number of vehicles were travelling at 46 kmph.



# Speed Curve

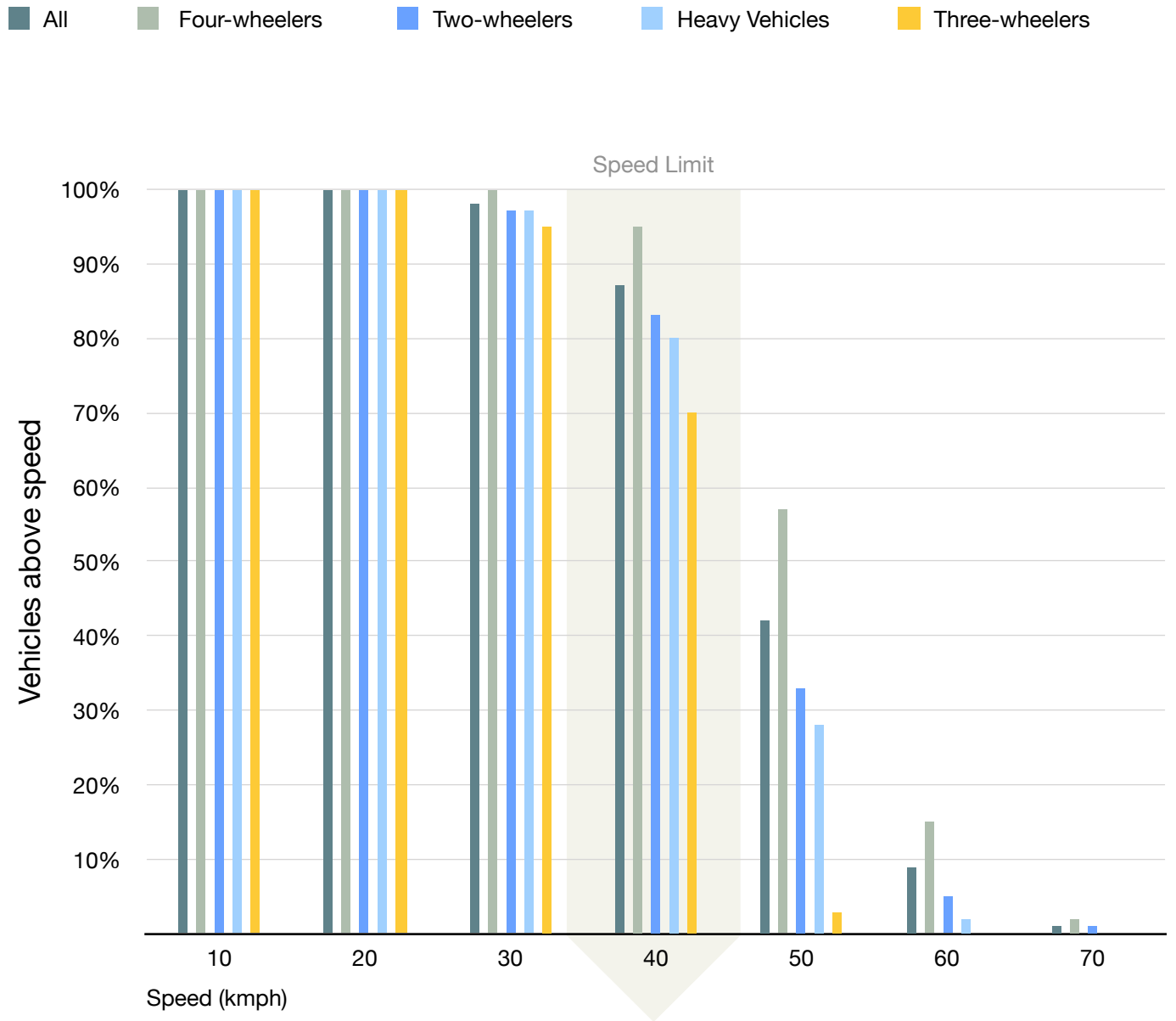
# Percent of vehicles below a speed range



The 85th percentile speed was 58 kmph. The maximum, i.e., 80% of vehicles were found to be travelling between 50 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

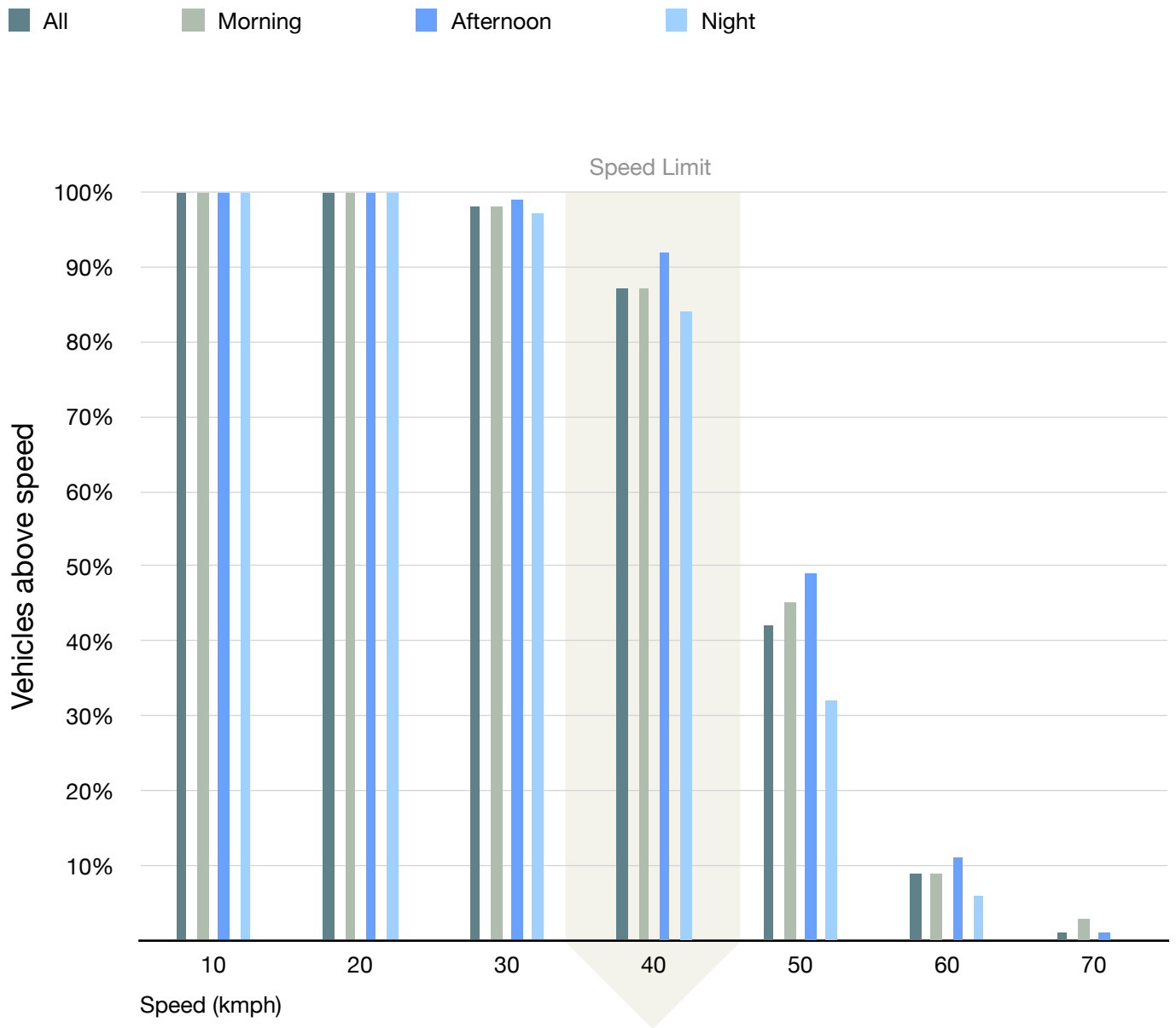


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	87%	95%	83%	80%	70%

We find that 87% vehicles exceed the designated speed limit with a whopping 95% four-wheelers exceeding the limit.

# Speeding

## By time of day

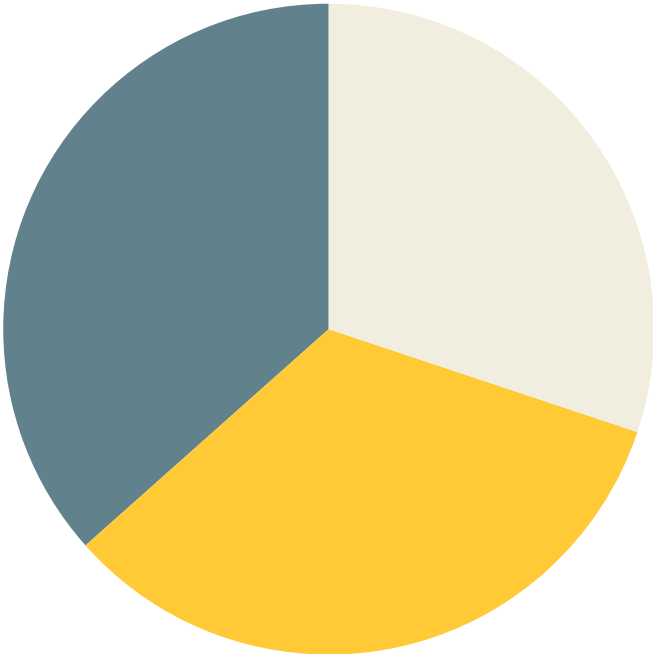
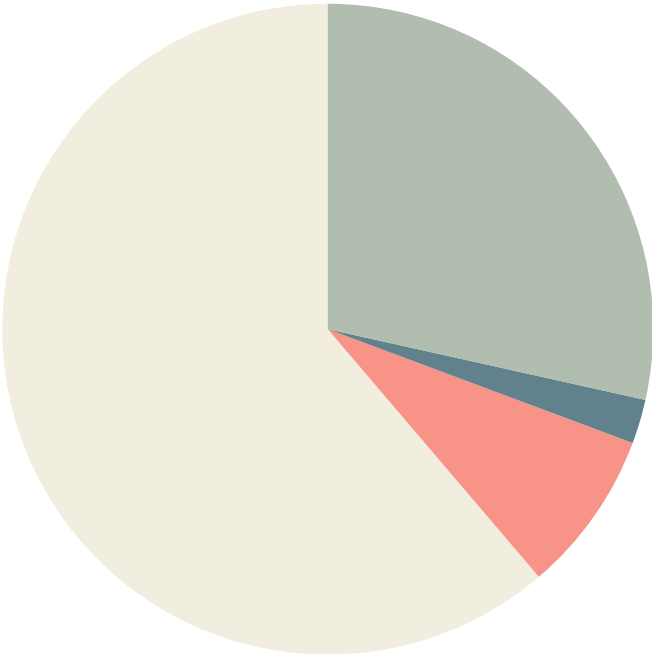


Speed limit	All	Morning	Afternoon	Night
40 kmph	87%	87%	92%	84%

We find that that at afternoon speeds tend to be little higher.

Survey Profile

1411 Vehicles



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● Four-Wheeler	402	28%
● Heavy Vehicle	31	2%
● Three-Wheeler	114	8%
● Two-Wheeler	864	61%

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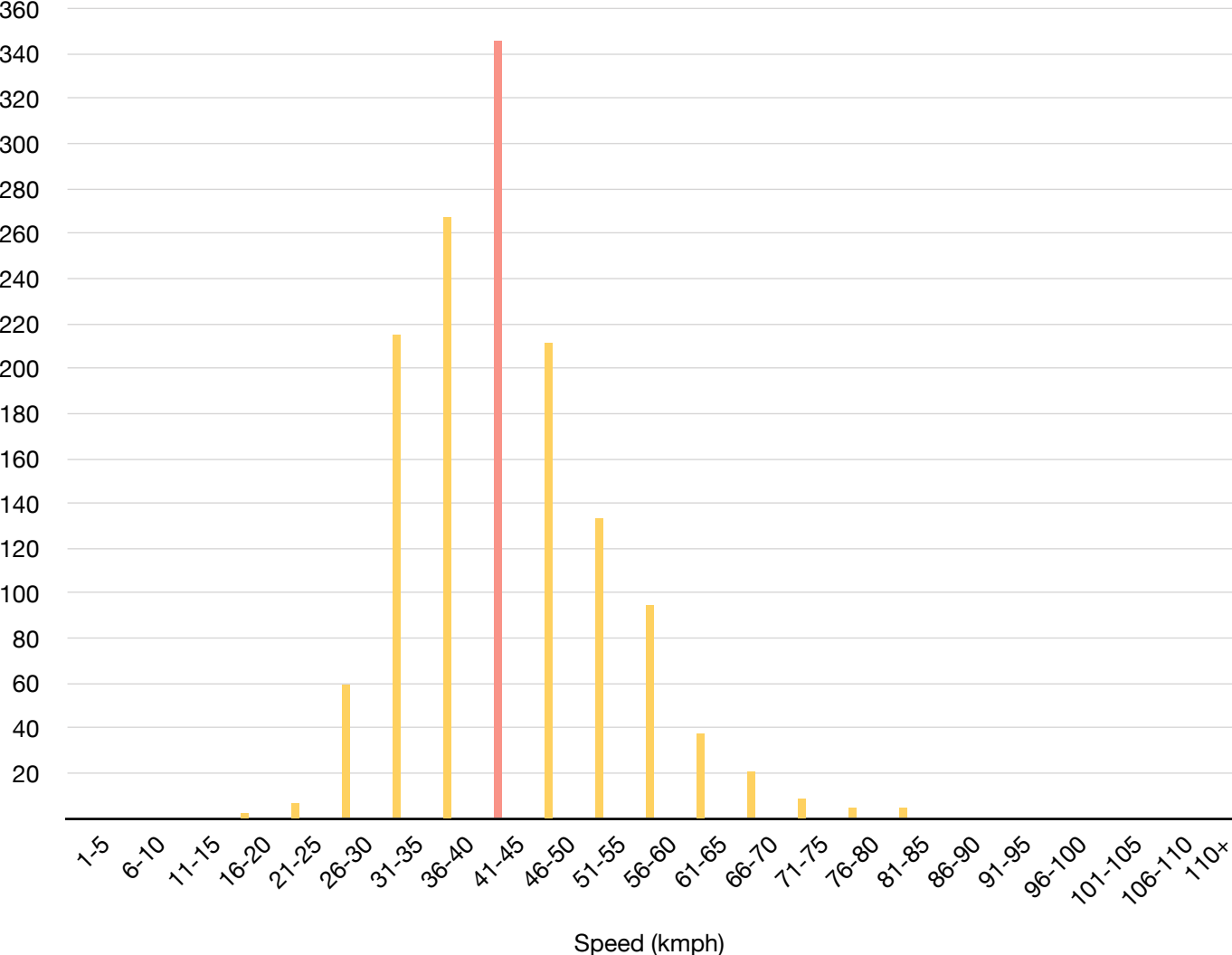
---

● Morning	425	31%
● Afternoon	470	33%
● Night	516	36%

---

# Speed Profile

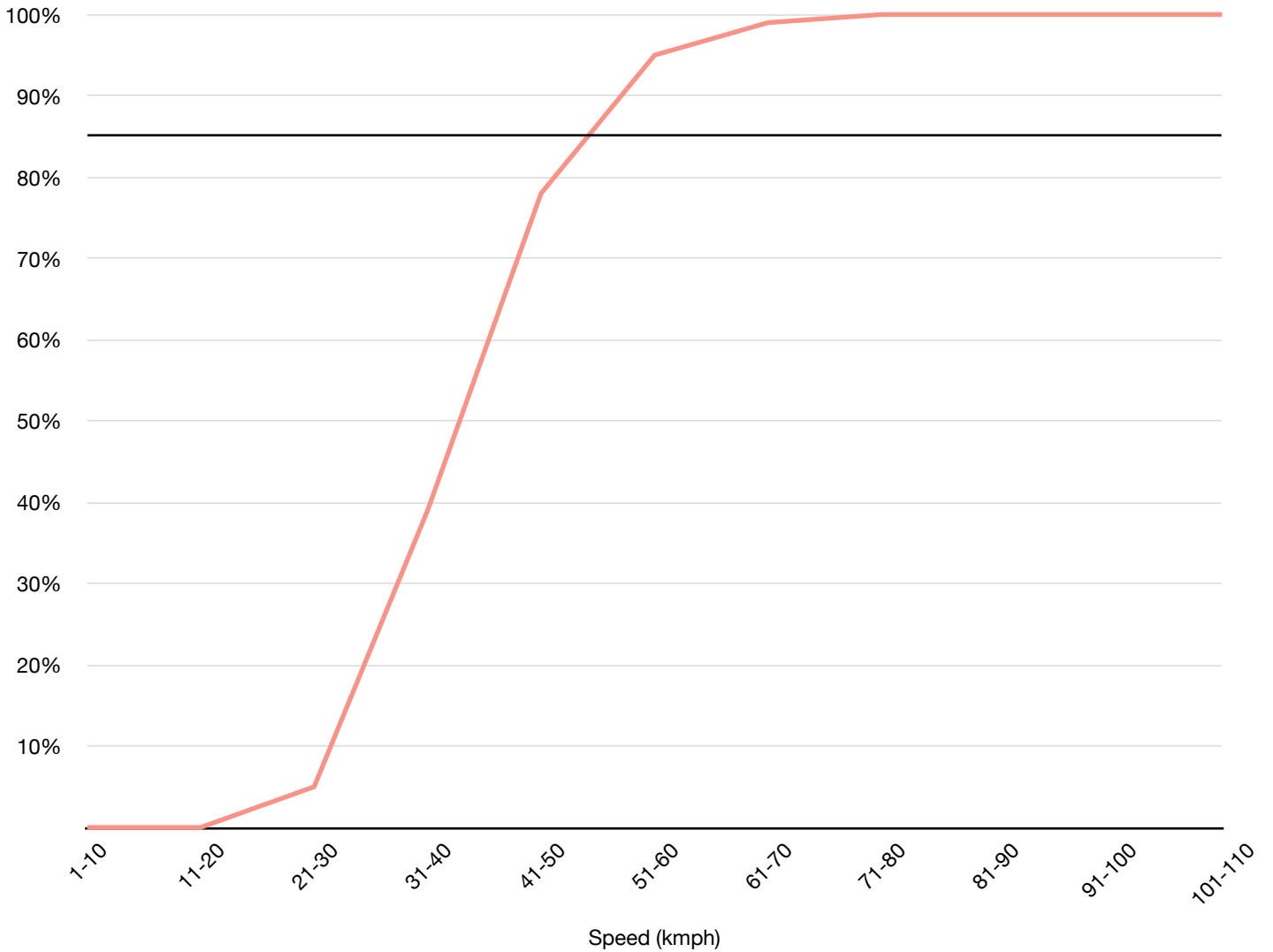
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 46 kmph.

# Speed Curve

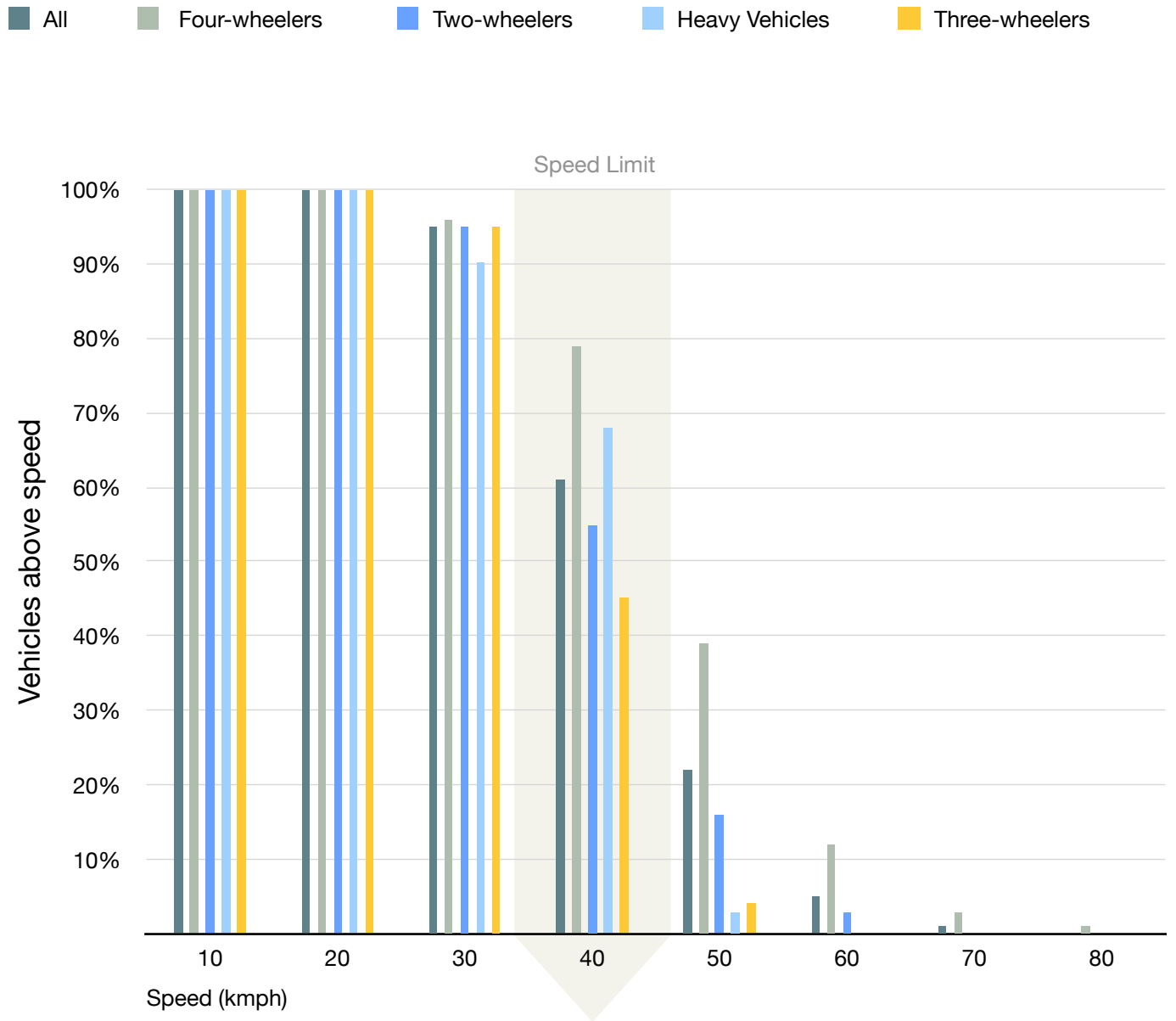
# Percent of vehicles below a speed range



The 85th percentile speed was 54 kmph. The maximum, i.e., 74% of vehicles were found to be travelling between 41 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

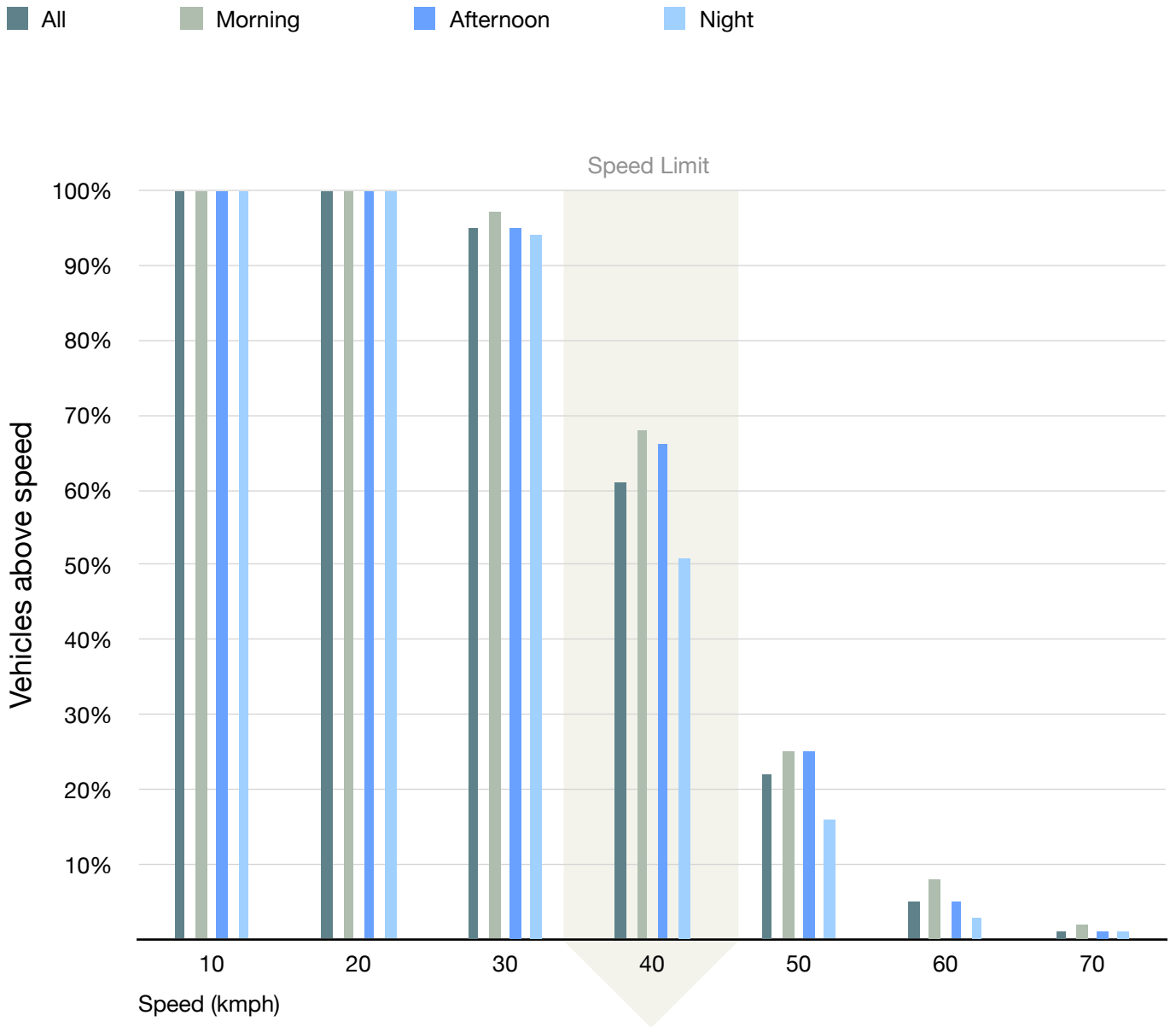


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	61%	79%	55%	68%	45%

We find that 61% vehicles exceed the designated speed limit with more four-wheelers (79%) as compared to other vehicles.

# Speeding

## By time of day



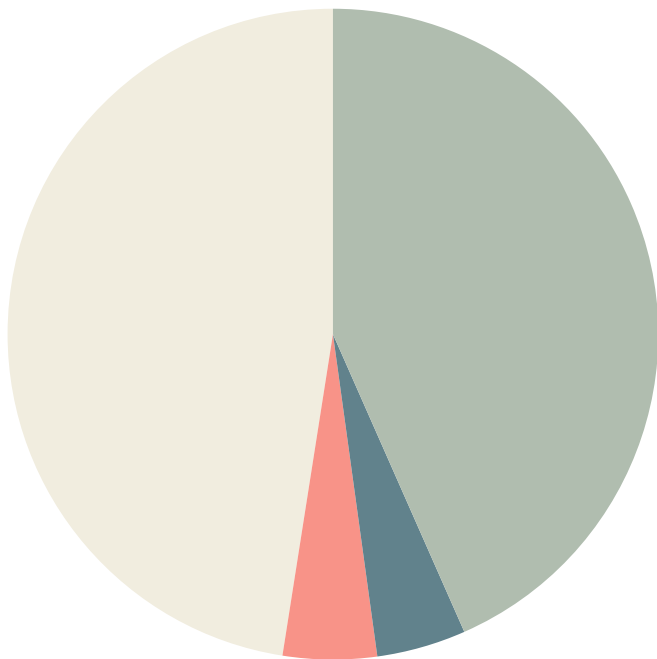
Speed limit	All	Morning	Afternoon	Night
40 kmph	61%	68%	66%	51%

We find that that at morning speeds tend to be slightly higher.



## Survey Profile

1330 Vehicles

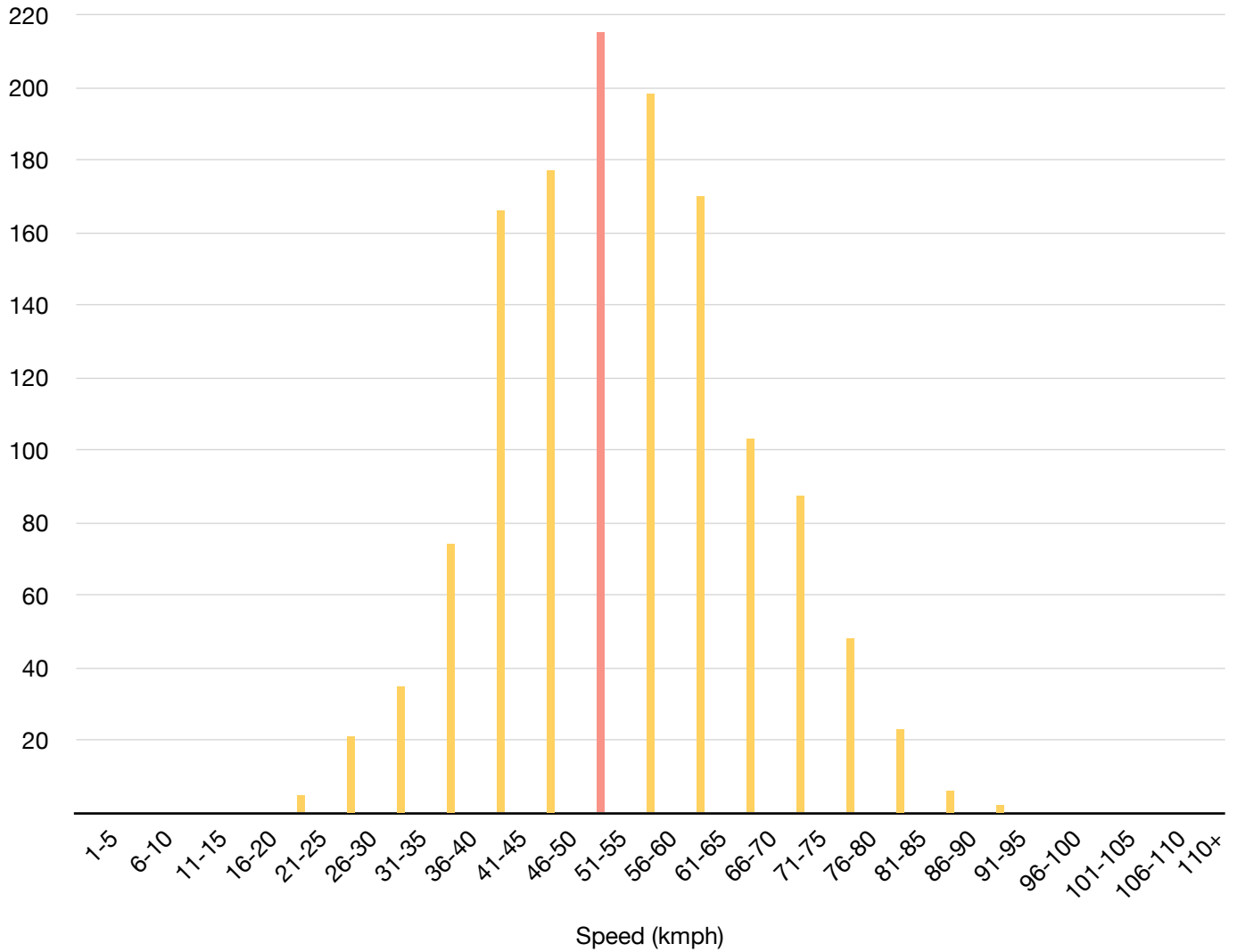


<span style="color: #808080;">●</span> Four-Wheeler	<b>577</b>	<b>43%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>59</b>	<b>4%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>62</b>	<b>5%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>632</b>	<b>48%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>441</b>	<b>33%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>486</b>	<b>37%</b>
<span style="color: #4682B4;">●</span> Night	<b>403</b>	<b>30%</b>

# Speed Profile

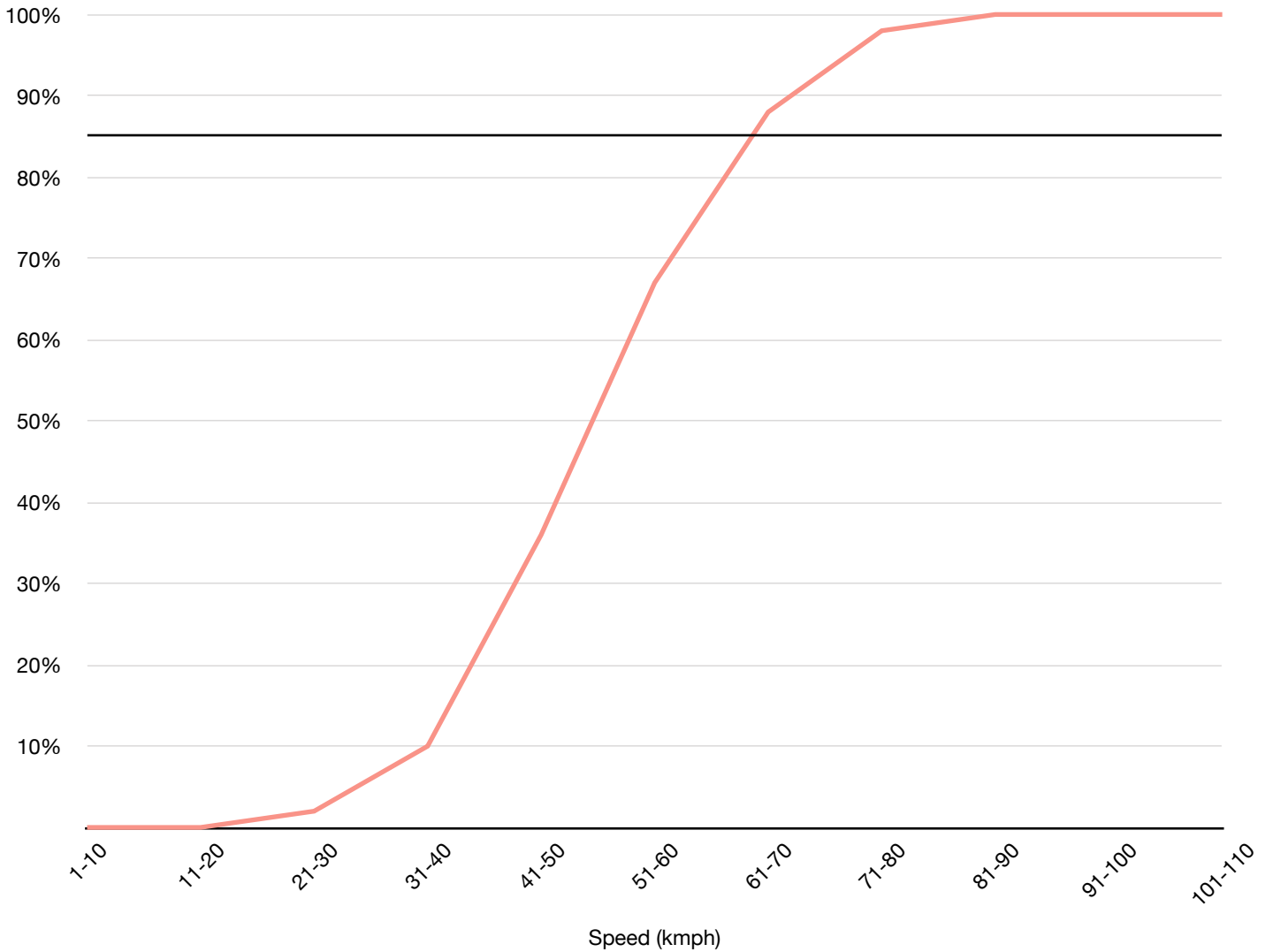
# Number of vehicles



The maximum number of vehicles were travelling between 51-55 kmph, followed by 56-60 kmph. The highest number of vehicles were travelling at 54 kmph.

# Speed Curve

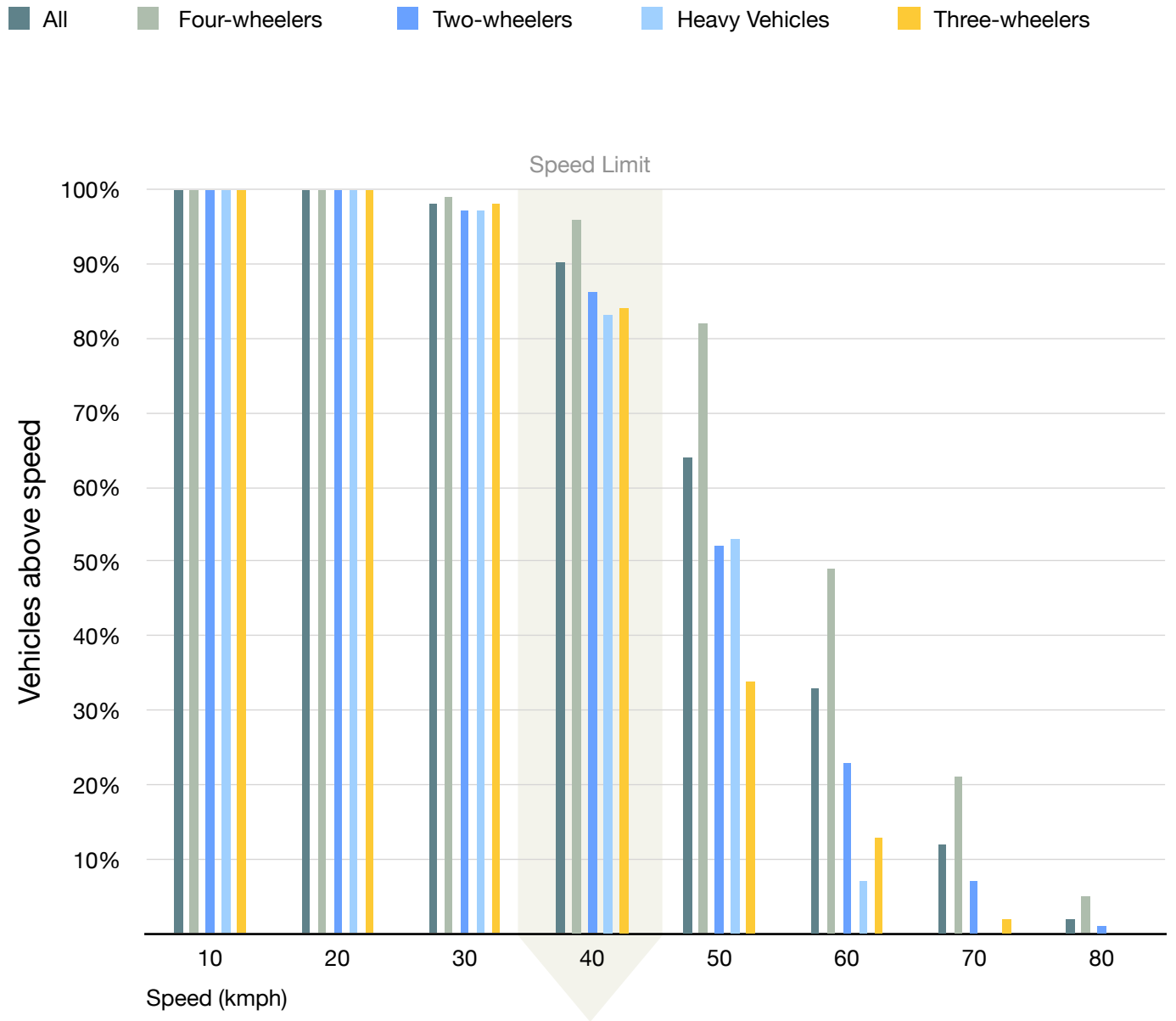
# Percent of vehicles below a speed range



The 85th percentile speed was 69 kmph. The maximum, i.e., 58% of vehicles were found to be travelling between 54 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

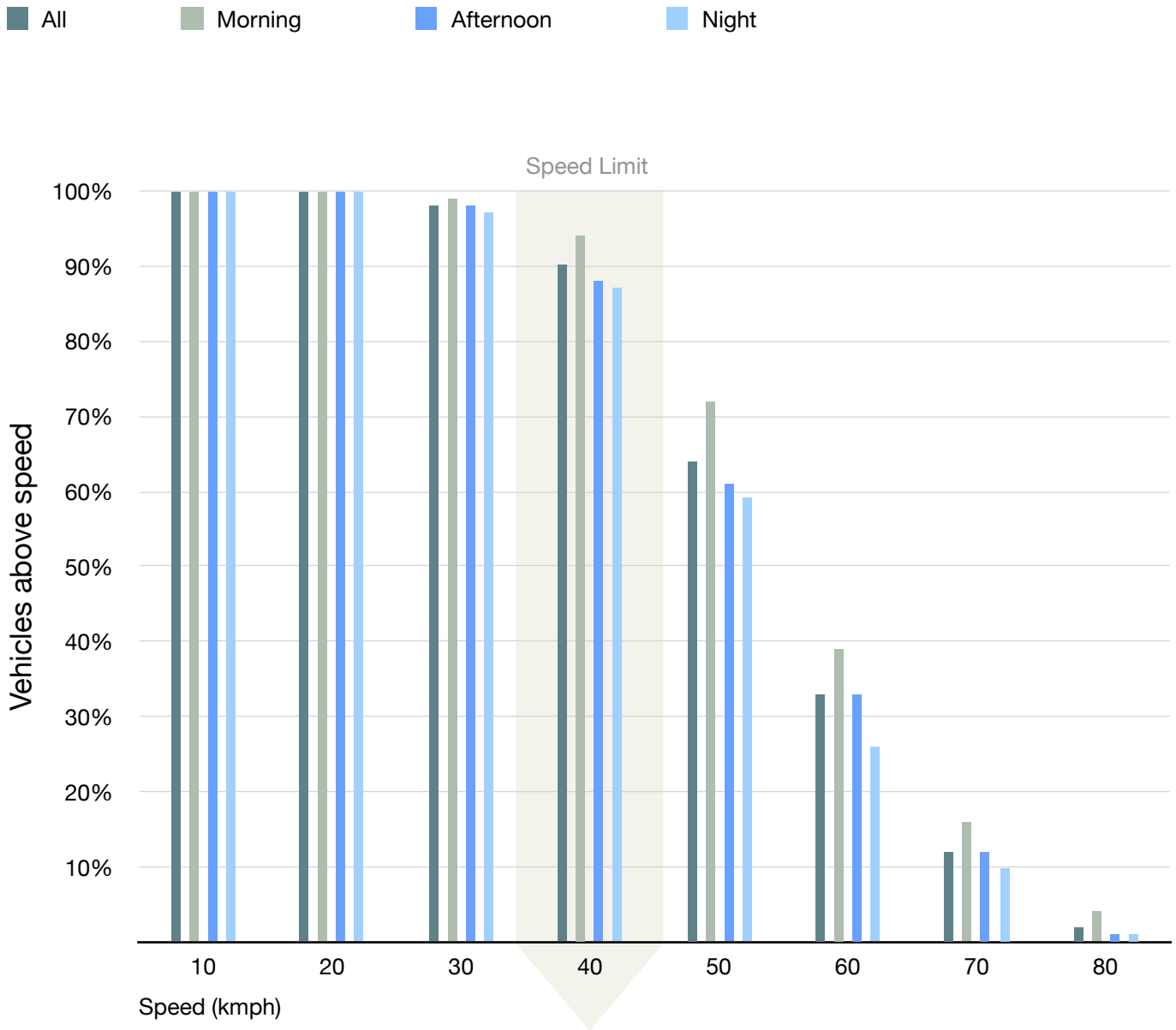


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	90%	96%	86%	83%	84%

We find that 90% vehicles exceed the designated speed limit with far more four-wheelers exceeding the speed (96%).

# Speeding

## By time of day

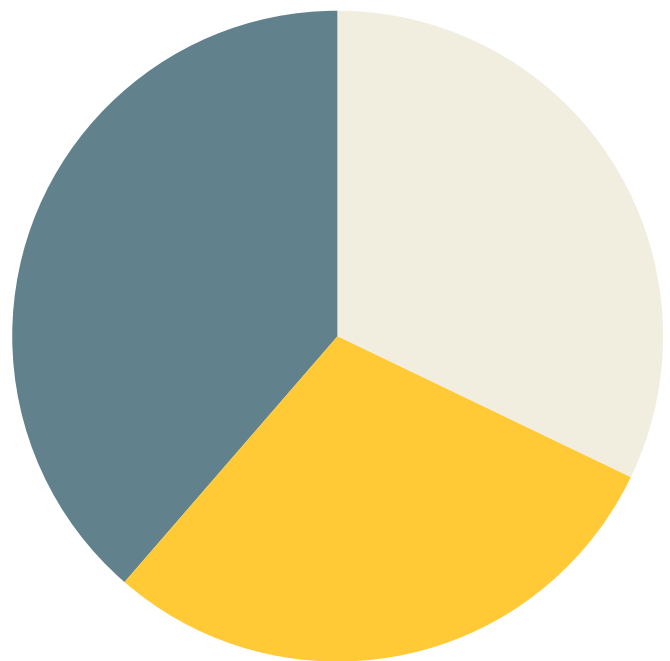
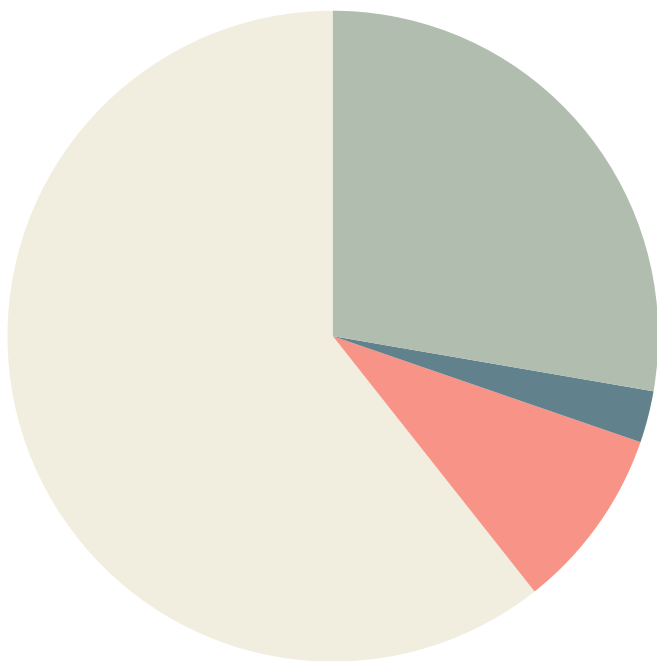


Speed limit	All	Morning	Afternoon	Night
40 kmph	90%	94%	88%	87%

We find that that at morning speeds tend to be higher, with 94% of vehicles going above 40 kmph as compared to 88%/87% in the afternoon and night.

## Survey Profile

1245 Vehicles

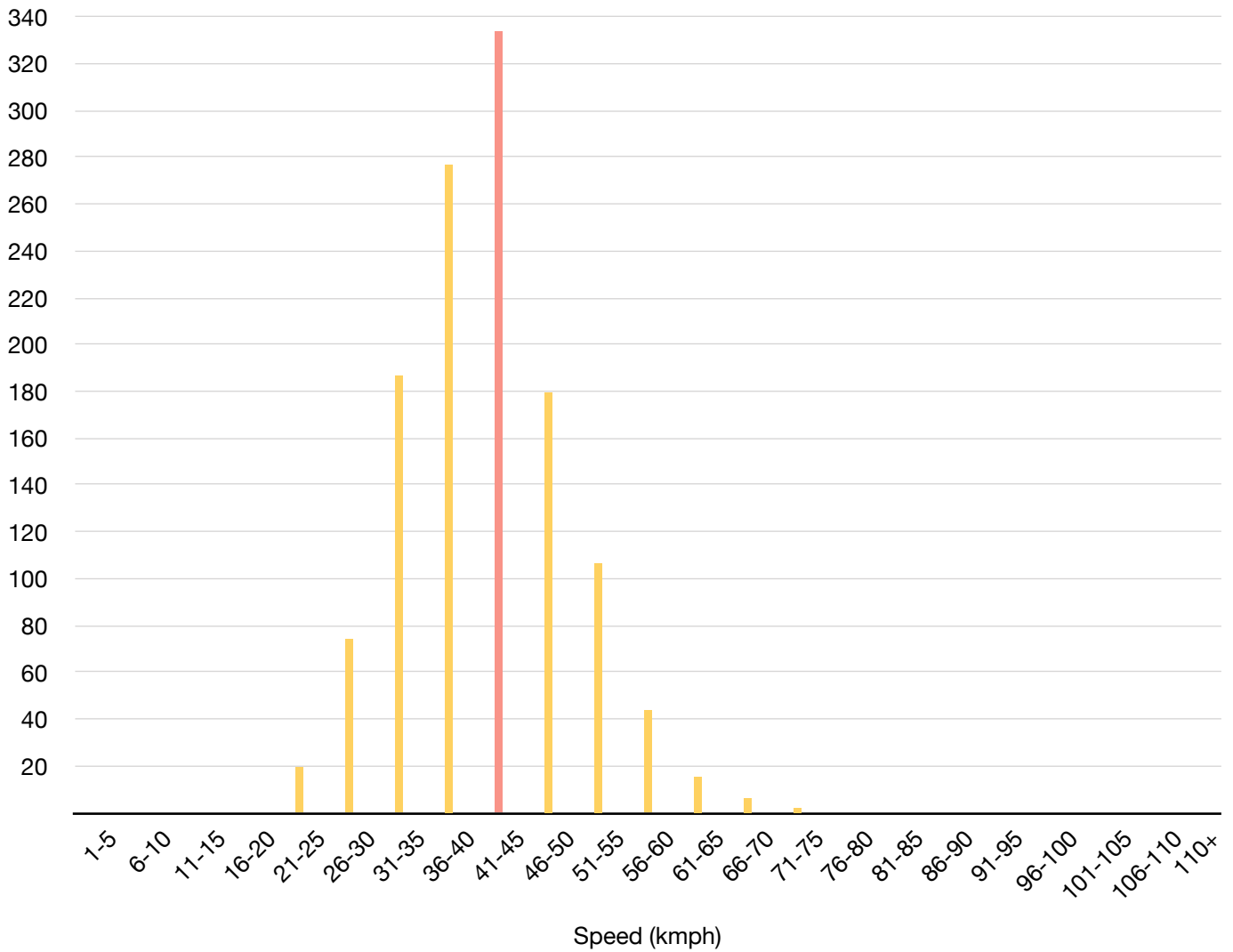


<span style="color: #808080;">●</span> Four-Wheeler	<b>345</b>	<b>28%</b>
<span style="color: #4682B4;">●</span> Heavy Vehicle	<b>32</b>	<b>3%</b>
<span style="color: #FF6347;">●</span> Three-Wheeler	<b>113</b>	<b>9%</b>
<span style="color: #D2B48C;">●</span> Two-Wheeler	<b>755</b>	<b>61%</b>

<span style="color: #D2B48C;">●</span> Morning	<b>400</b>	<b>32%</b>
<span style="color: #FFD700;">●</span> Afternoon	<b>364</b>	<b>29%</b>
<span style="color: #4682B4;">●</span> Night	<b>481</b>	<b>39%</b>

# Speed Profile

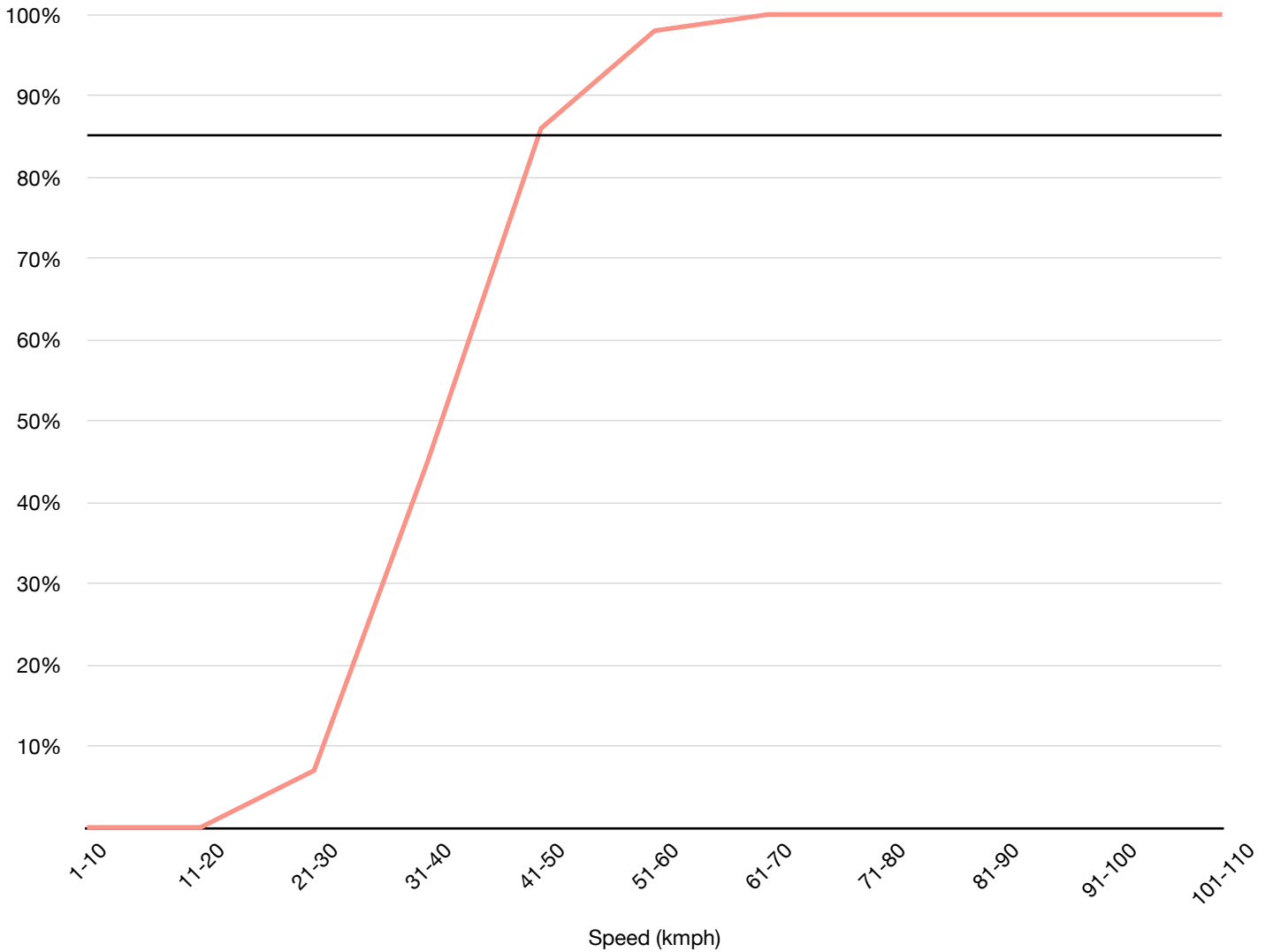
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 41 kmph.

# Speed Curve

# Percent of vehicles below a speed range

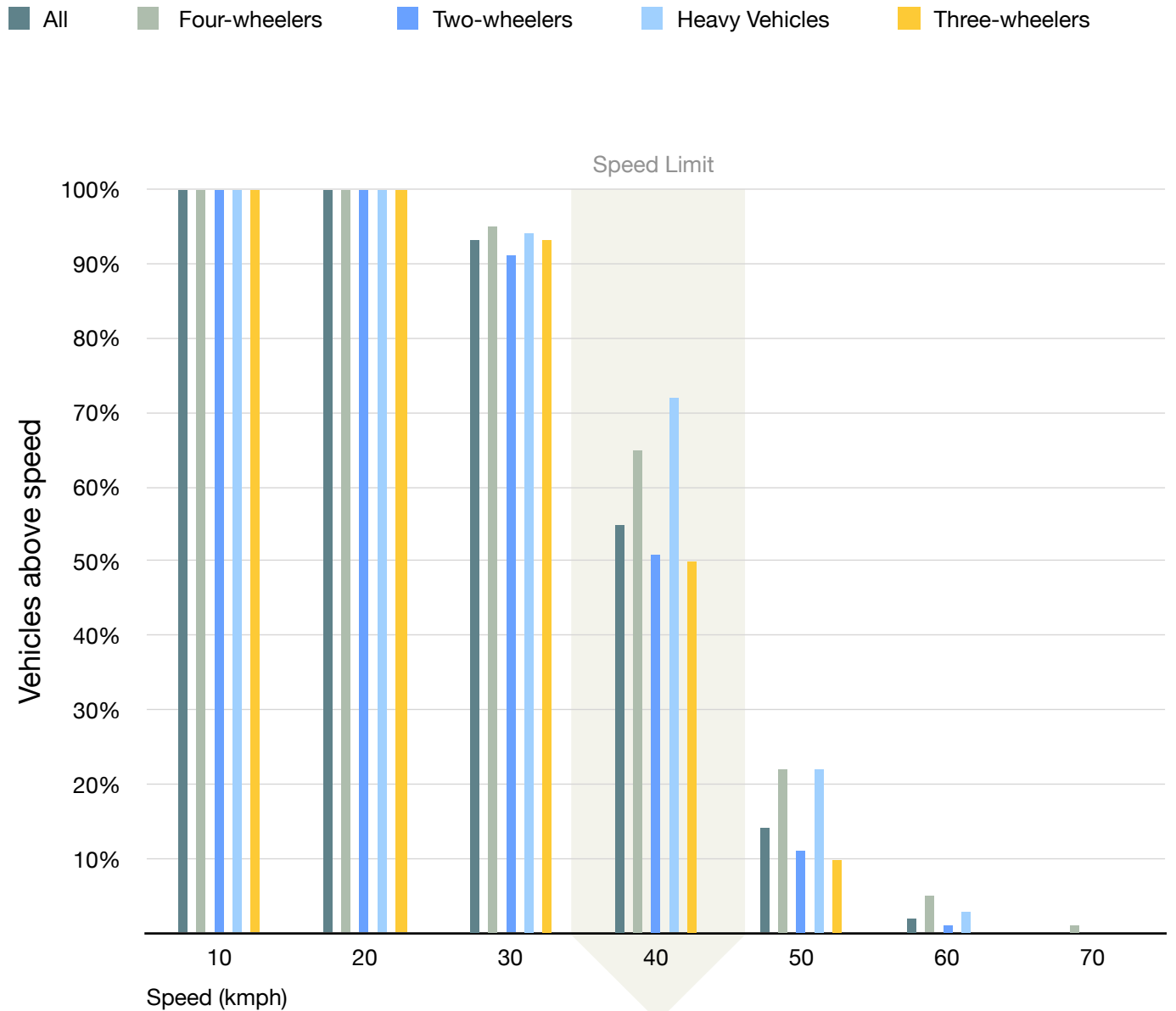


The 85th percentile speed was 51 kmph. The maximum, i.e., 80% of vehicles were found to be travelling between 42 kmph  $\pm$  10 kmph.



# Speeding

## By type of vehicle

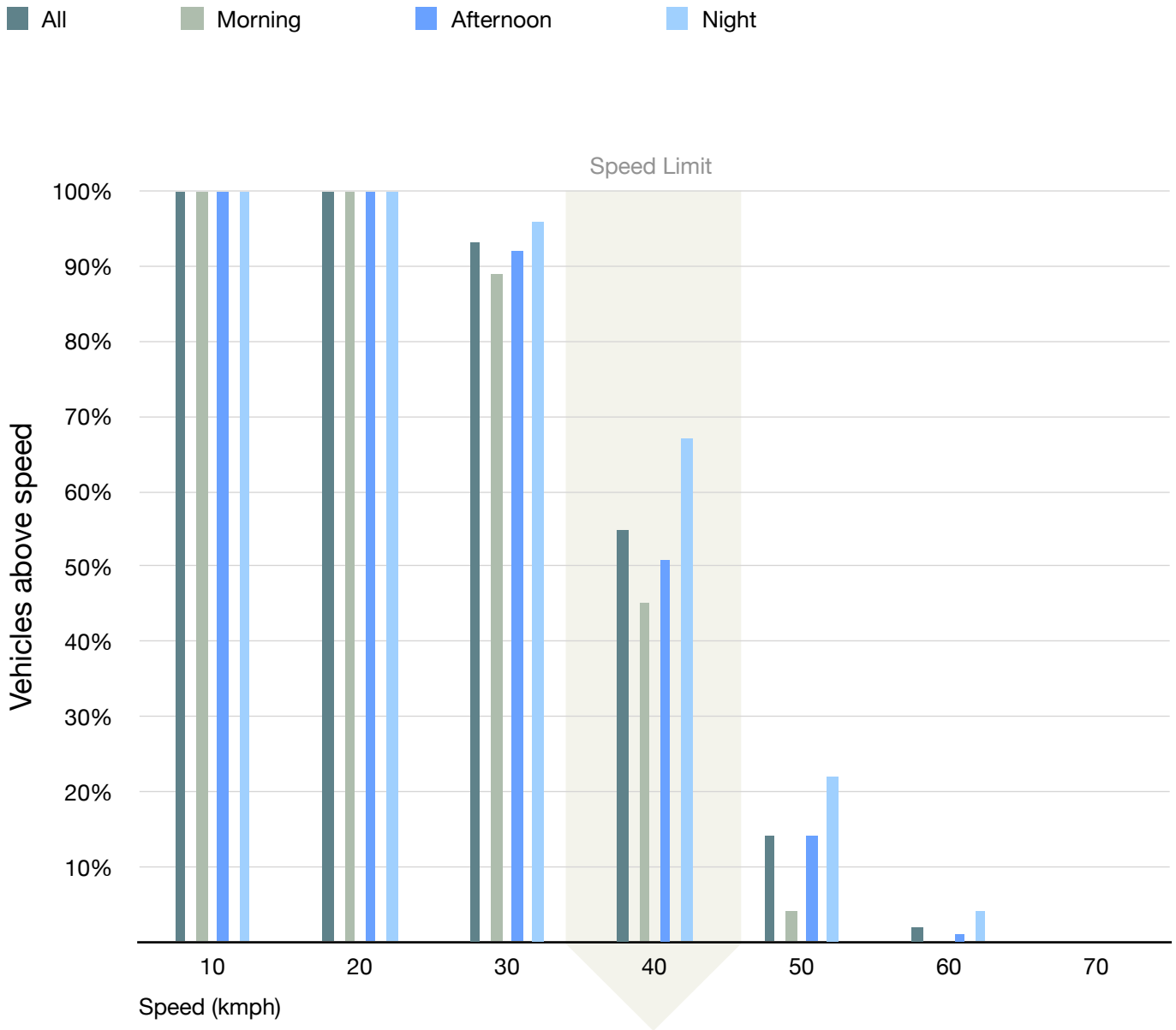


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	55%	65%	51%	72%	50%

We find that 55% vehicles exceed the designated speed limit. Heavy vehicles exceed the speed (72%) more as compared to other vehicles.

# Speeding

## By time of day

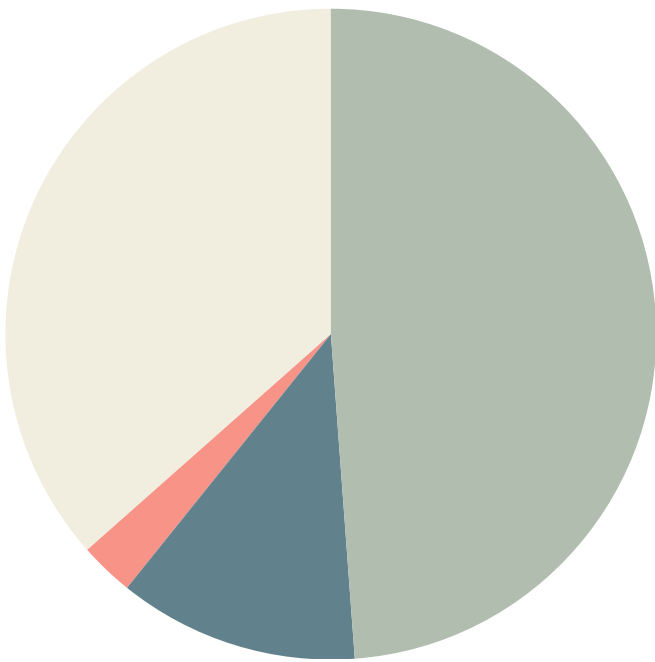


Speed limit	All	Morning	Afternoon	Night
40 kmph	55%	45%	51%	67%

We find that that at night speeds tend to be higher, with 67% of vehicles going above 40 kmph as compared to 45%/51% in the morning and afternoon.

## Survey Profile

854 Vehicles



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●	Four-Wheeler	417	49%
●	Heavy Vehicle	102	12%
●	Three-Wheeler	23	3%
●	Two-Wheeler	312	37%

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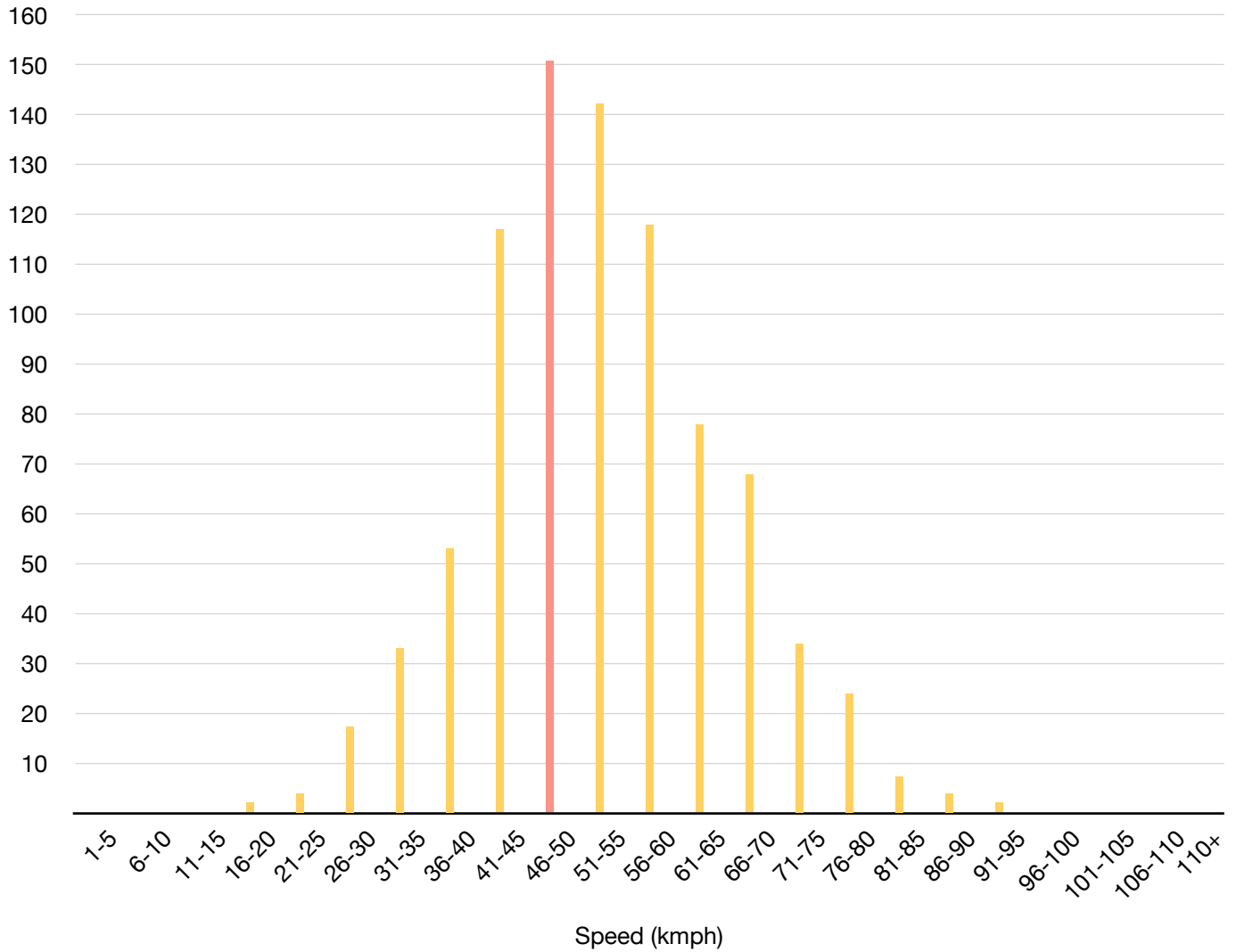
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●	Morning	305	36%
●	Afternoon	161	19%
●	Night	388	45%

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# Speed Profile

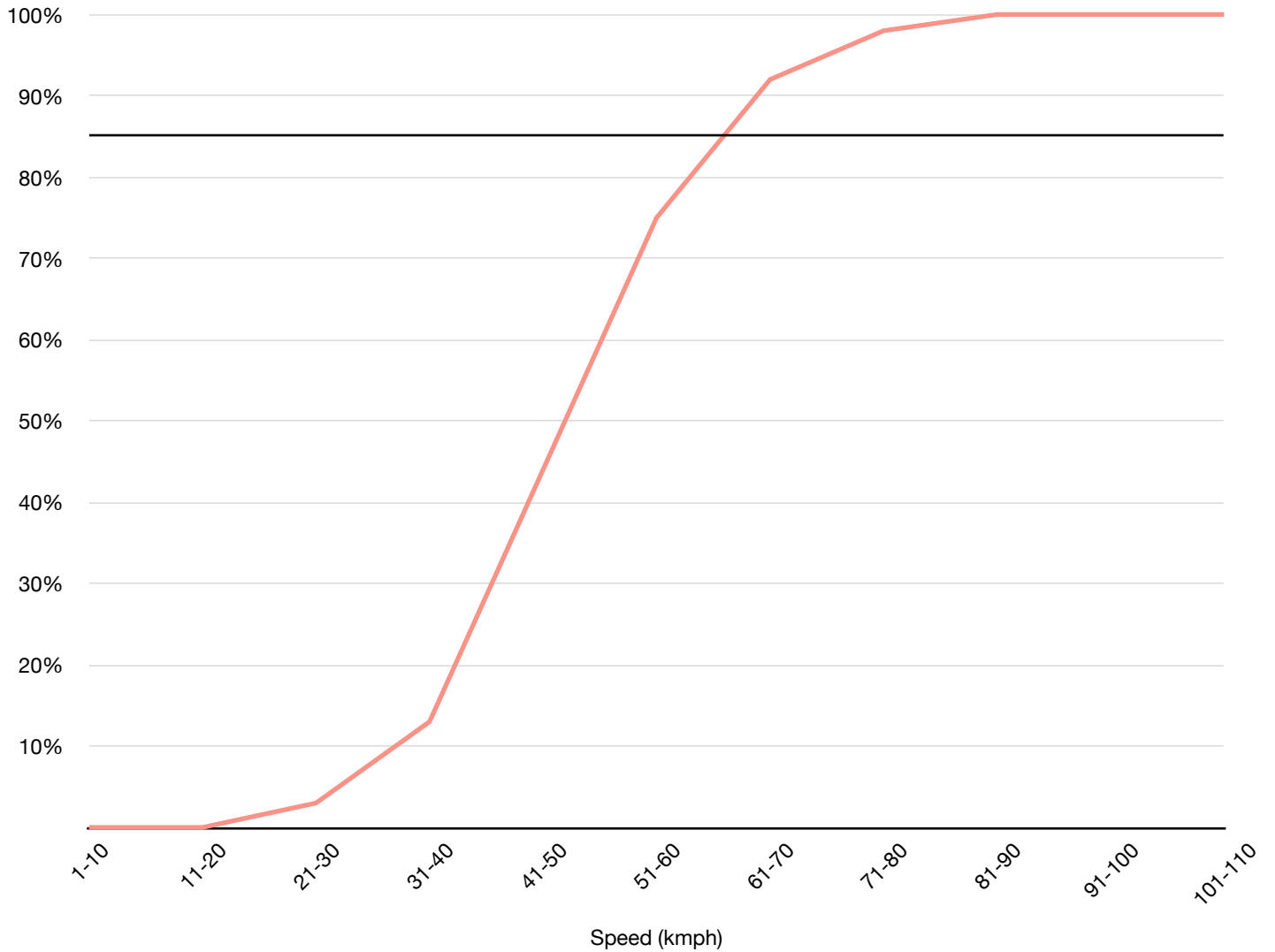
# Number of vehicles



The maximum number of vehicles were travelling between 46-50 kmph, followed by 51-55 kmph. The highest number of vehicles were travelling at 49 kmph.

# Speed Curve

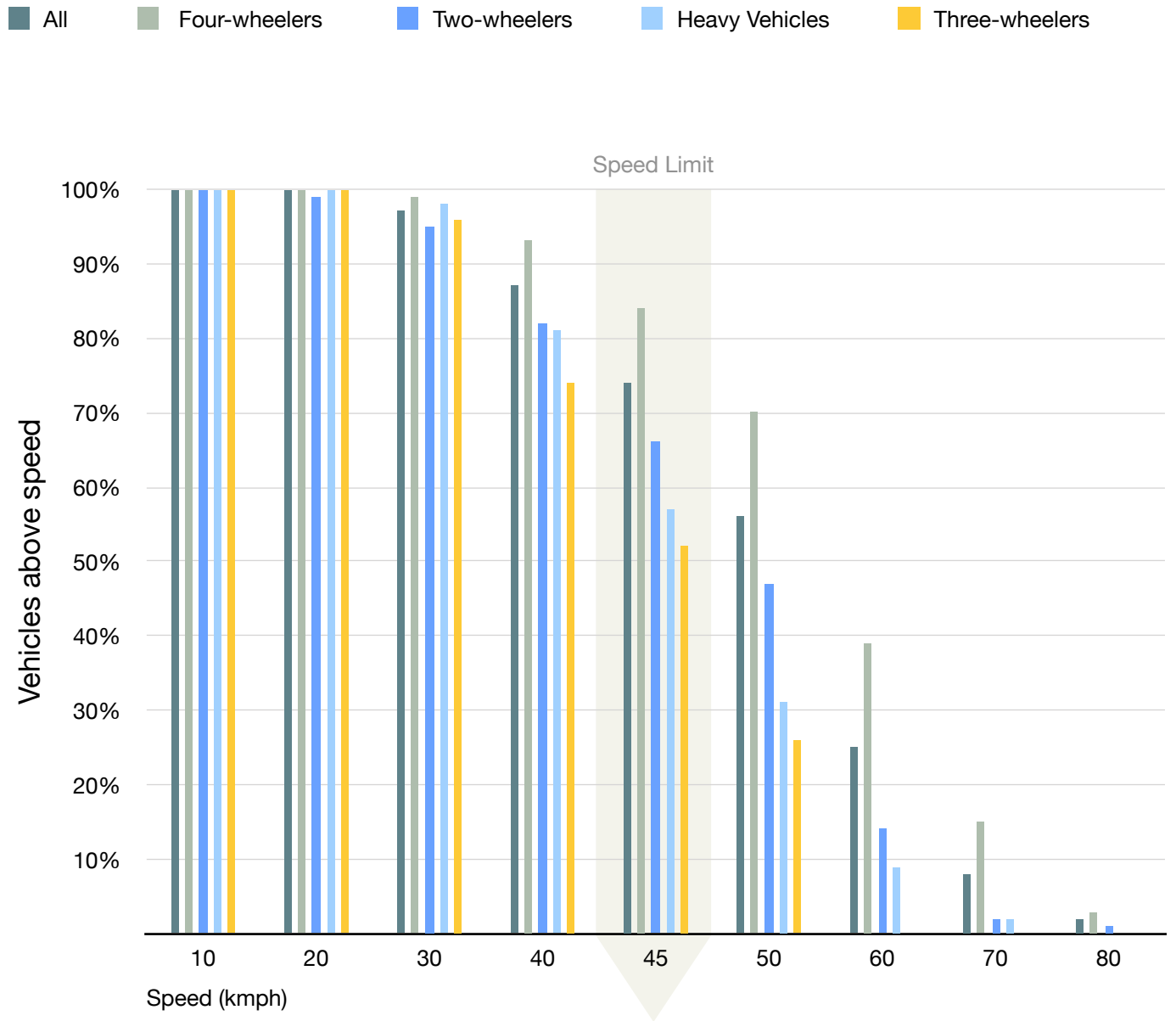
# Percent of vehicles below a speed range



The 85th percentile speed was 67 kmph. The maximum, i.e., 62% of vehicles were found to be travelling between 51 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

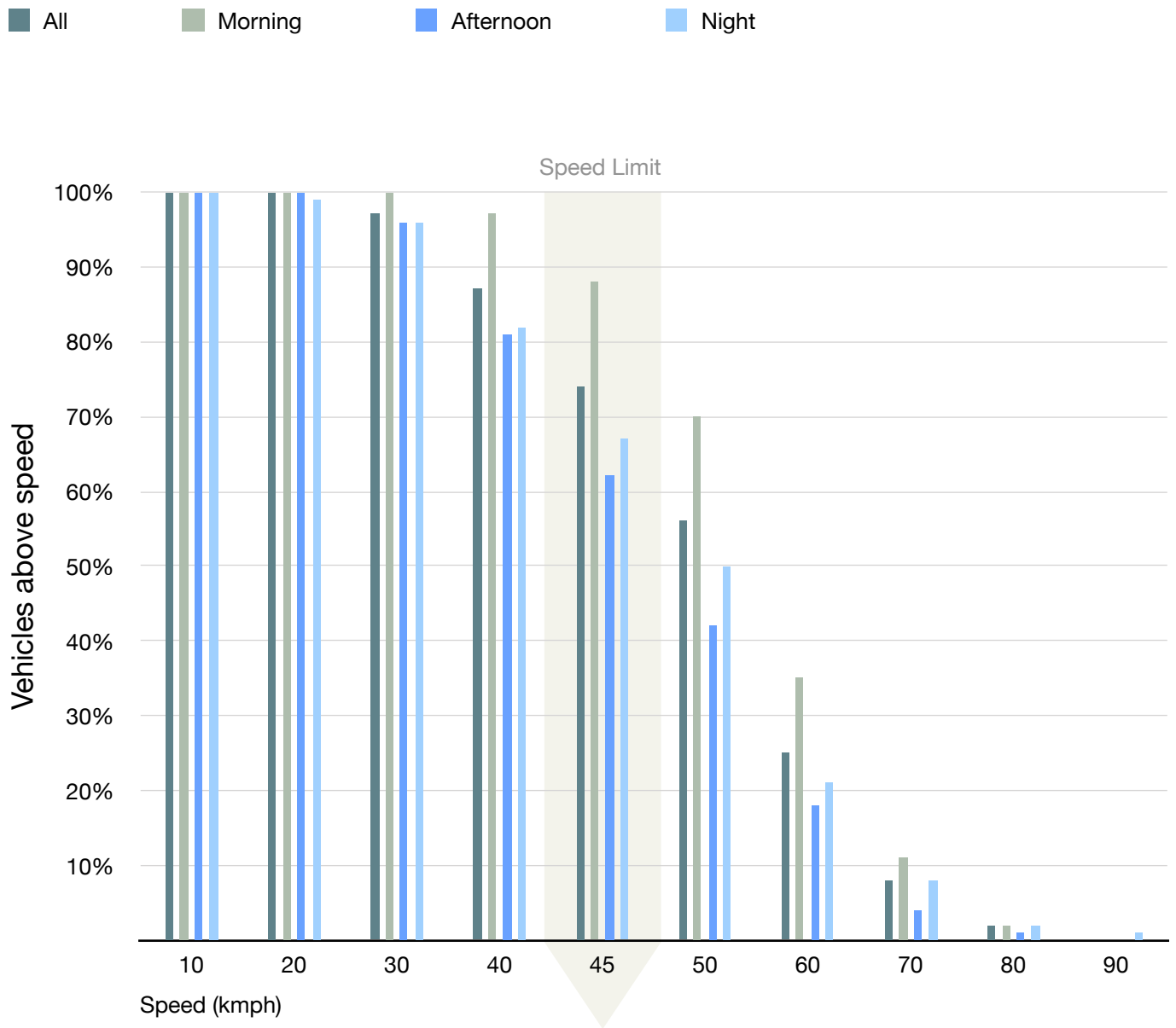


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
45 kmph	74%	84%	66%	57%	52%

We find that 74% vehicles exceed the designated speed limit. Far more of four-wheelers exceed the speed (84%) as compared to other vehicles.

# Speeding

## By time of day

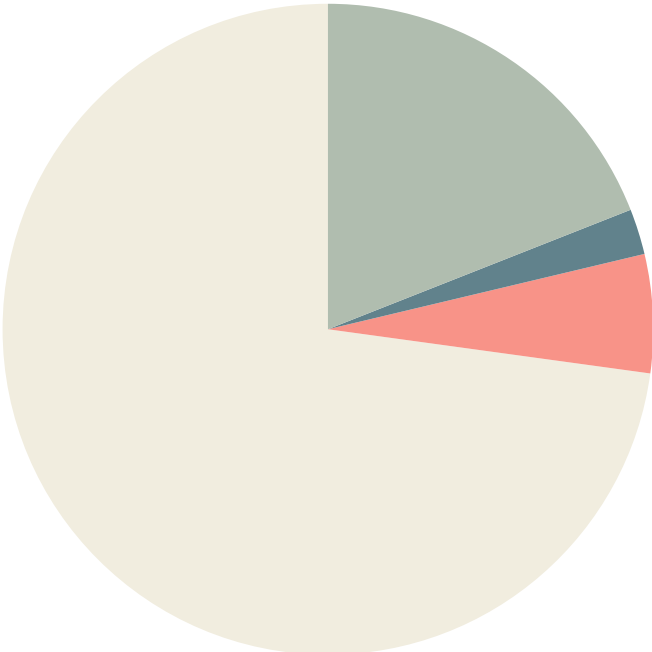


Speed limit	All	Morning	Afternoon	Night
45 kmph	74%	88%	62%	67%

We find that that at morning speeds tend to be higher, with 88% of vehicles going above 45 kmph as compared to 62%/67% in the afternoon and night.

Survey Profile

1325 Vehicles



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●	Four-Wheeler	252	19%
●	Heavy Vehicle	30	2%
●	Three-Wheeler	78	6%
●	Two-Wheeler	965	73%

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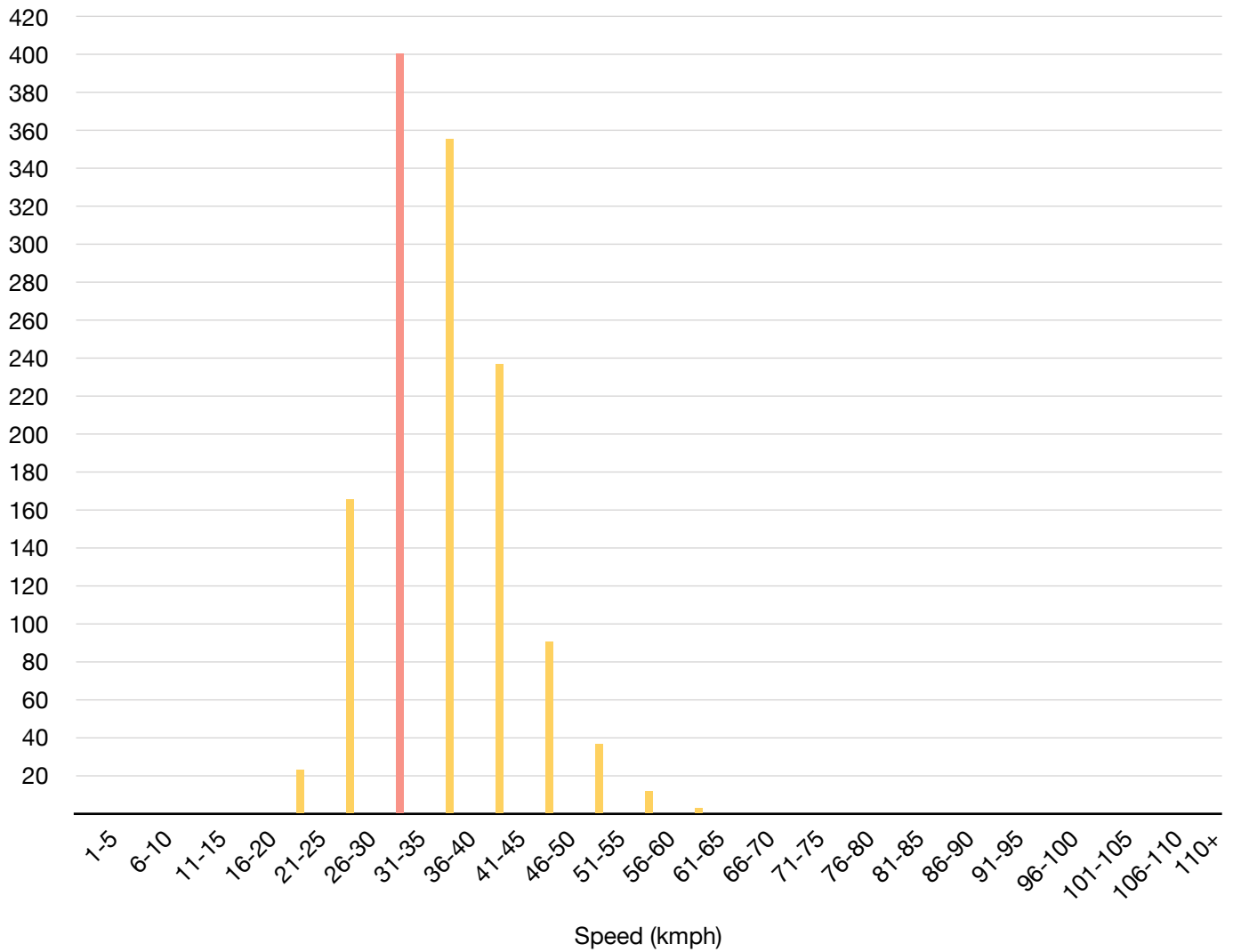
●	Morning	471	35%
●	Afternoon	380	29%
●	Night	474	36%

---



## Speed Profile

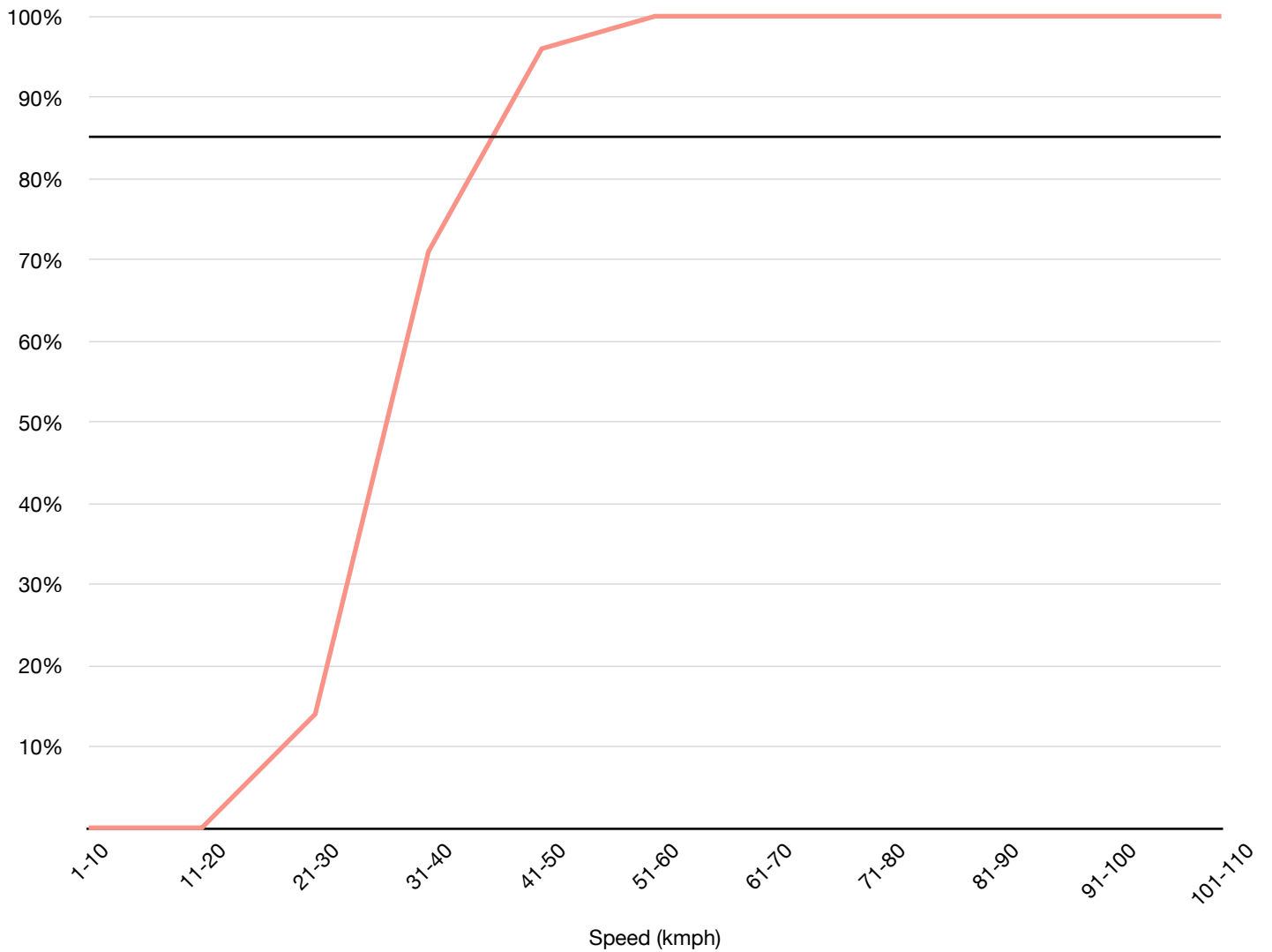
## Number of vehicles



The maximum number of vehicles were travelling between 31-35 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 36 kmph.

# Speed Curve

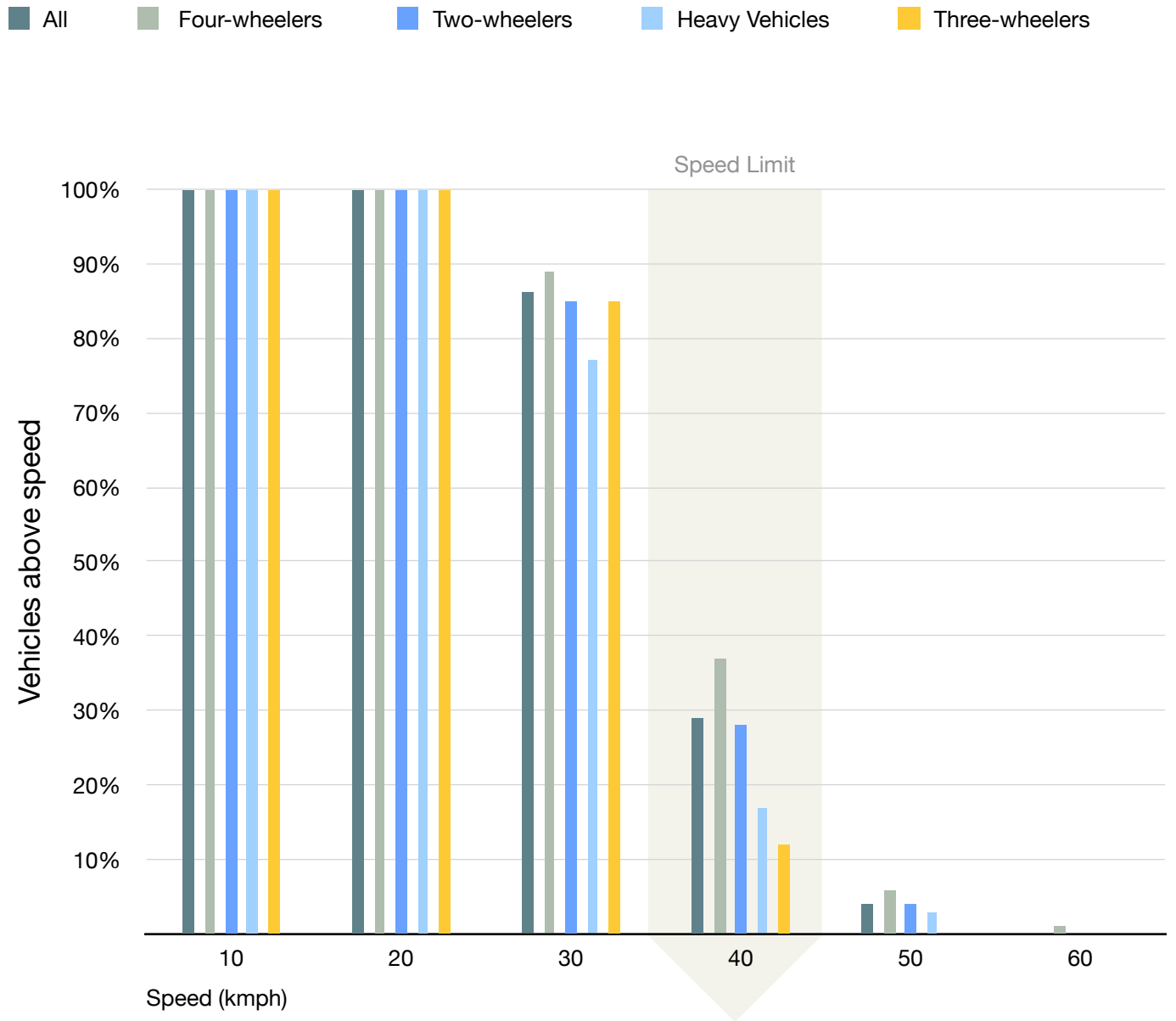
Percent of vehicles below a speed range



The 85th percentile speed was 45 kmph. The maximum, i.e., 88% of vehicles were found to be travelling between 38 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle

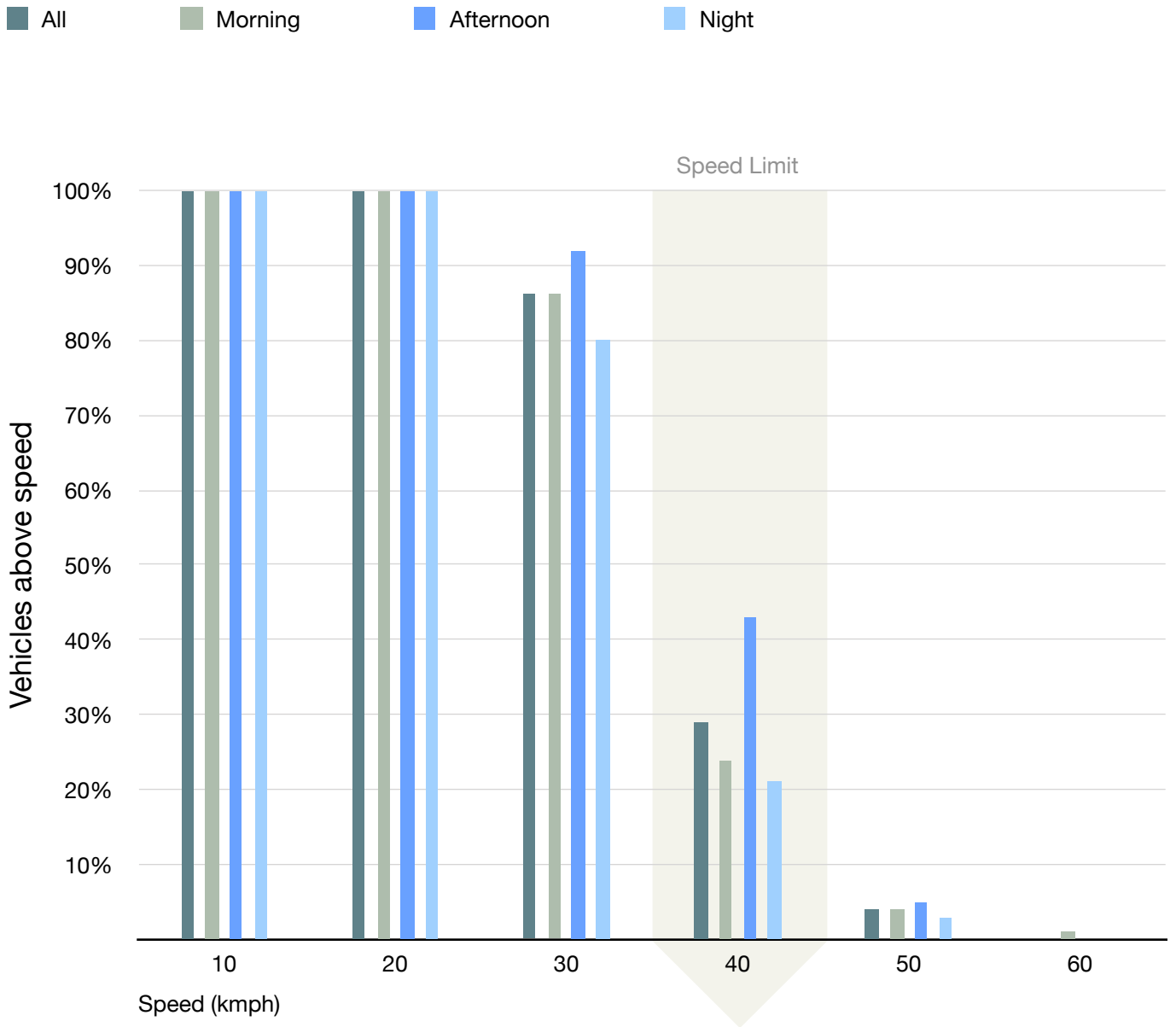


Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	29%	37%	28%	17%	12%

We find that 29% vehicles exceed the designated speed limit. However, we find that more far more four-wheelers exceed the speed (37%) as compared to heavy vehicles and three-wheelers.

# Speeding

## By time of day

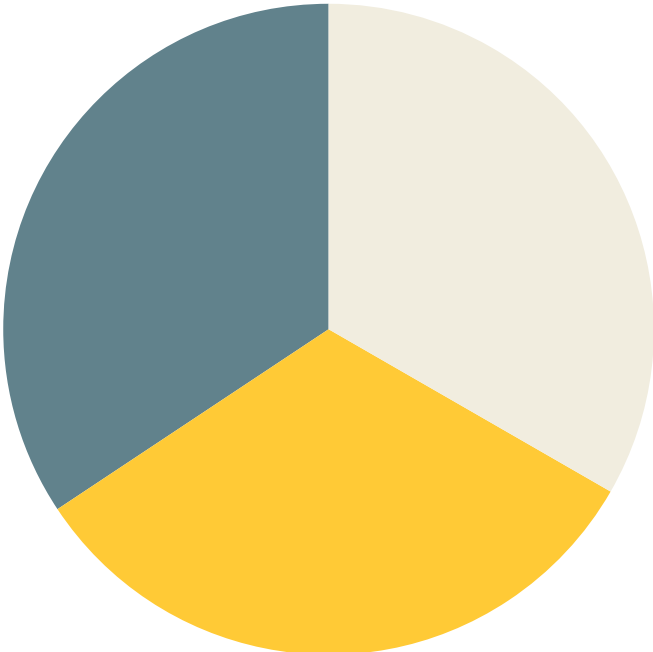
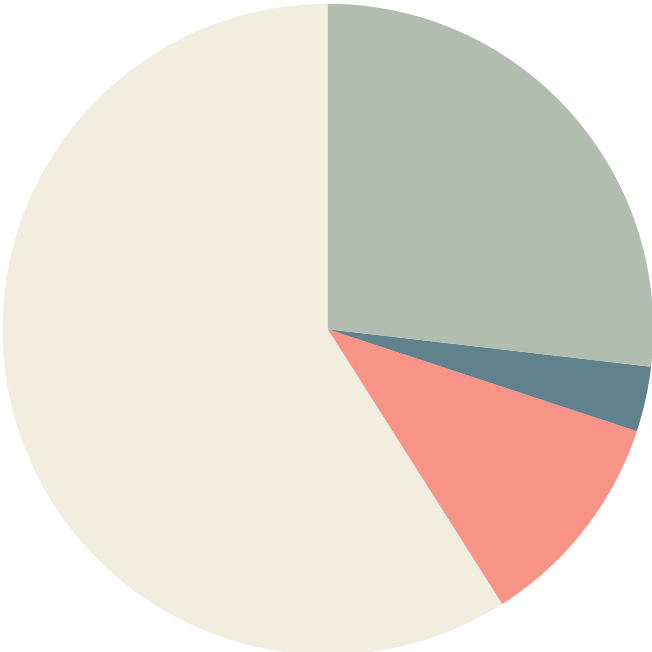


Speed limit	All	Morning	Afternoon	Night
40 kmph	29%	24%	43%	21%

We find that that at afternoon speeds tend to be higher, with 43% of vehicles going above 40 kmph as compared to 24%/21% in the morning and night.

Survey Profile

1483 Vehicles



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●	Four-Wheeler	398	27%
●	Heavy Vehicle	48	3%
●	Three-Wheeler	162	11%
●	Two-Wheeler	875	59%

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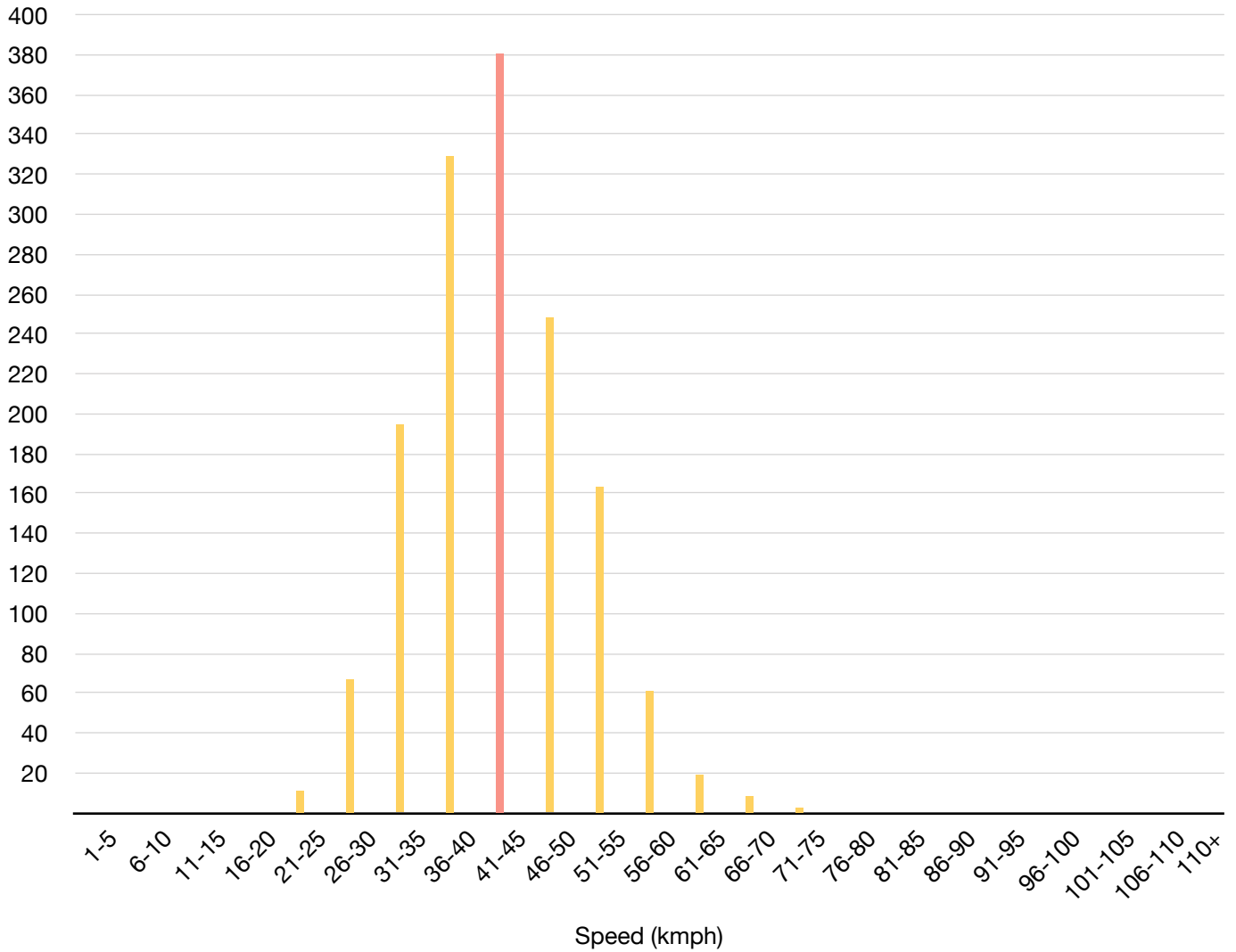
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●	Morning	494	33%
●	Afternoon	480	32%
●	Night	509	34%

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# Speed Profile

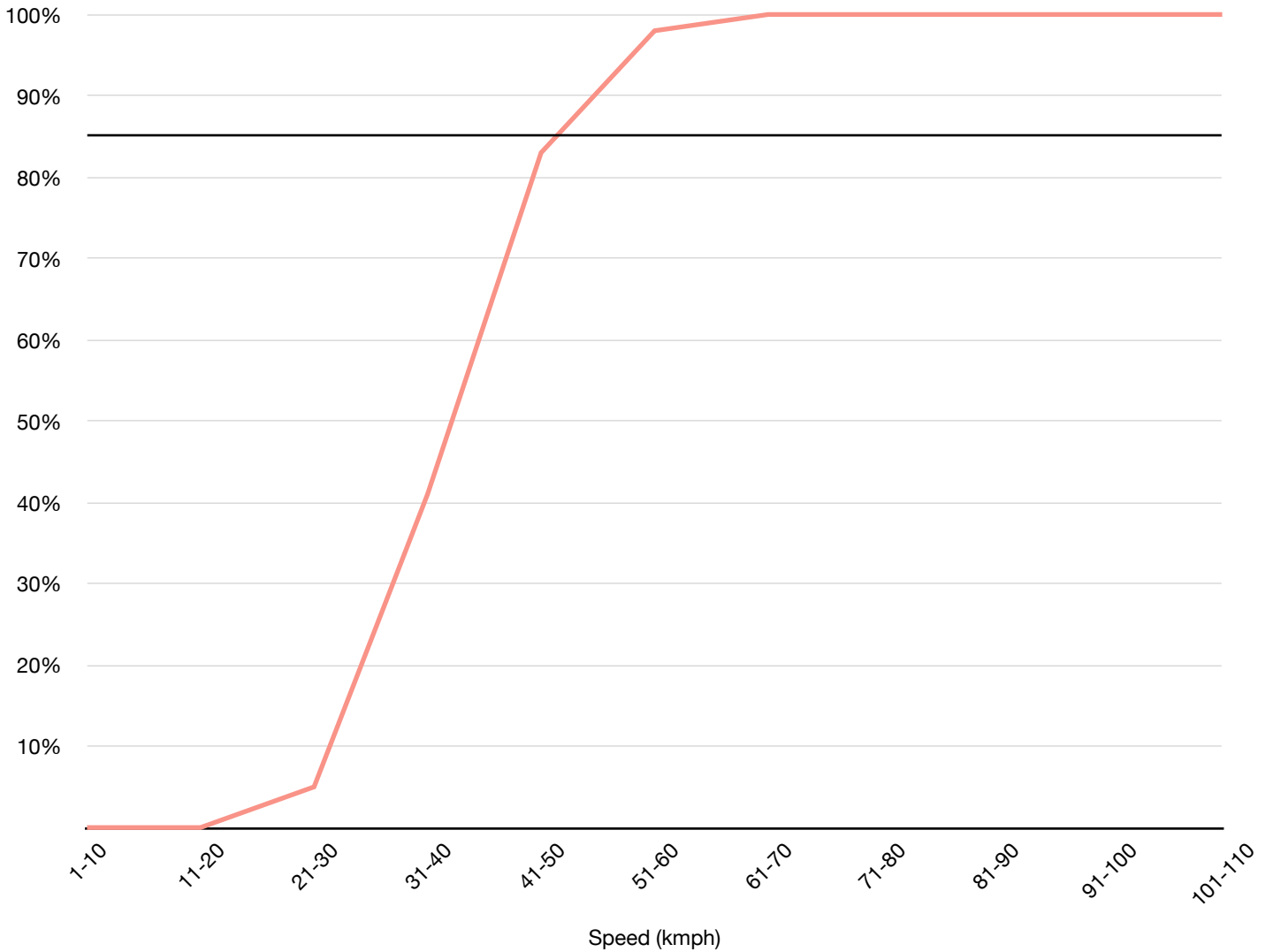
# Number of vehicles



The maximum number of vehicles were travelling between 41-45 kmph, followed by 36-40 kmph. The highest number of vehicles were travelling at 42 kmph.

# Speed Curve

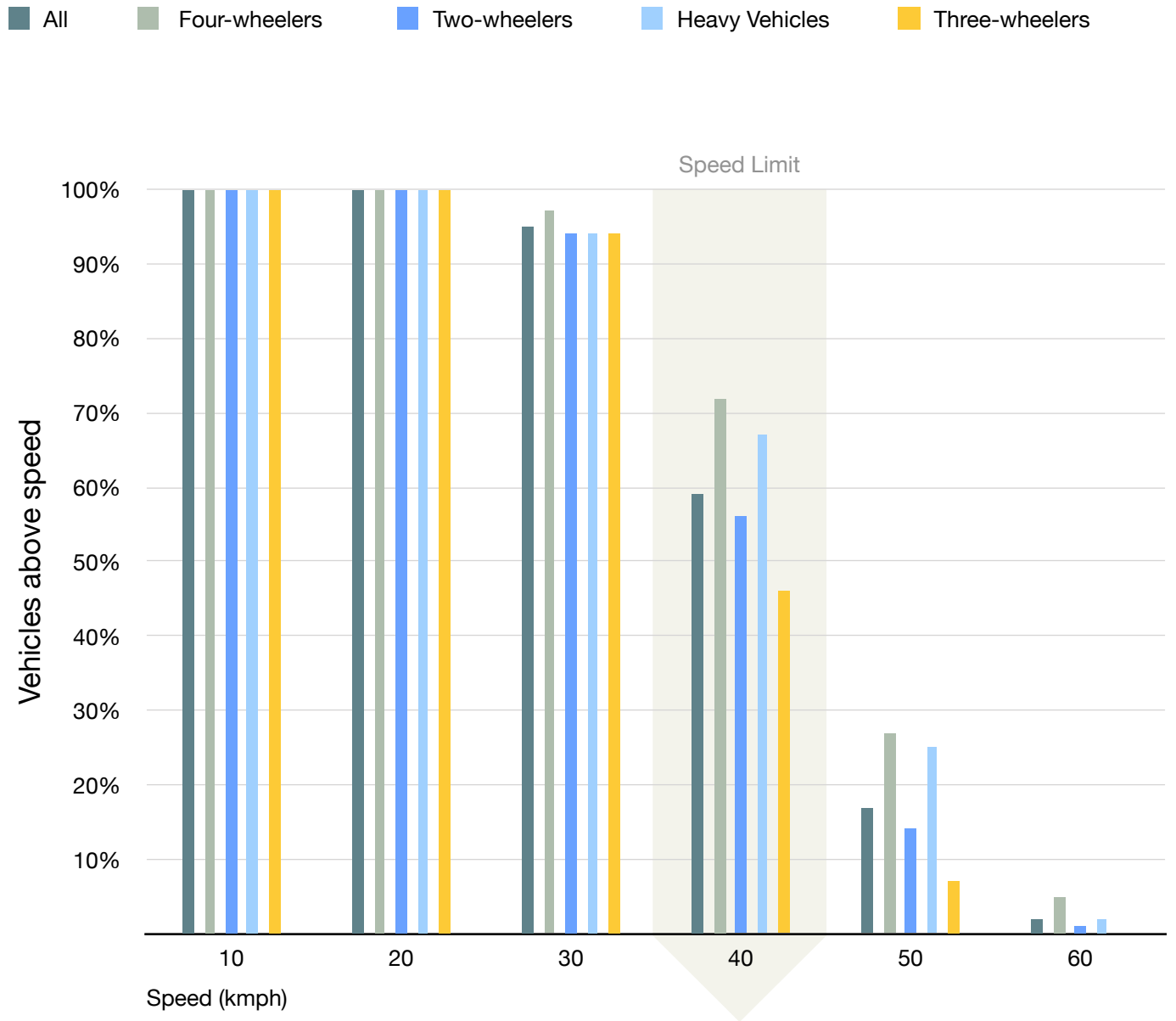
# Percent of vehicles below a speed range



The 85th percentile speed was 52 kmph. The maximum, i.e., 80% of vehicles were found to be travelling between 44 kmph  $\pm$  10 kmph.

# Speeding

## By type of vehicle



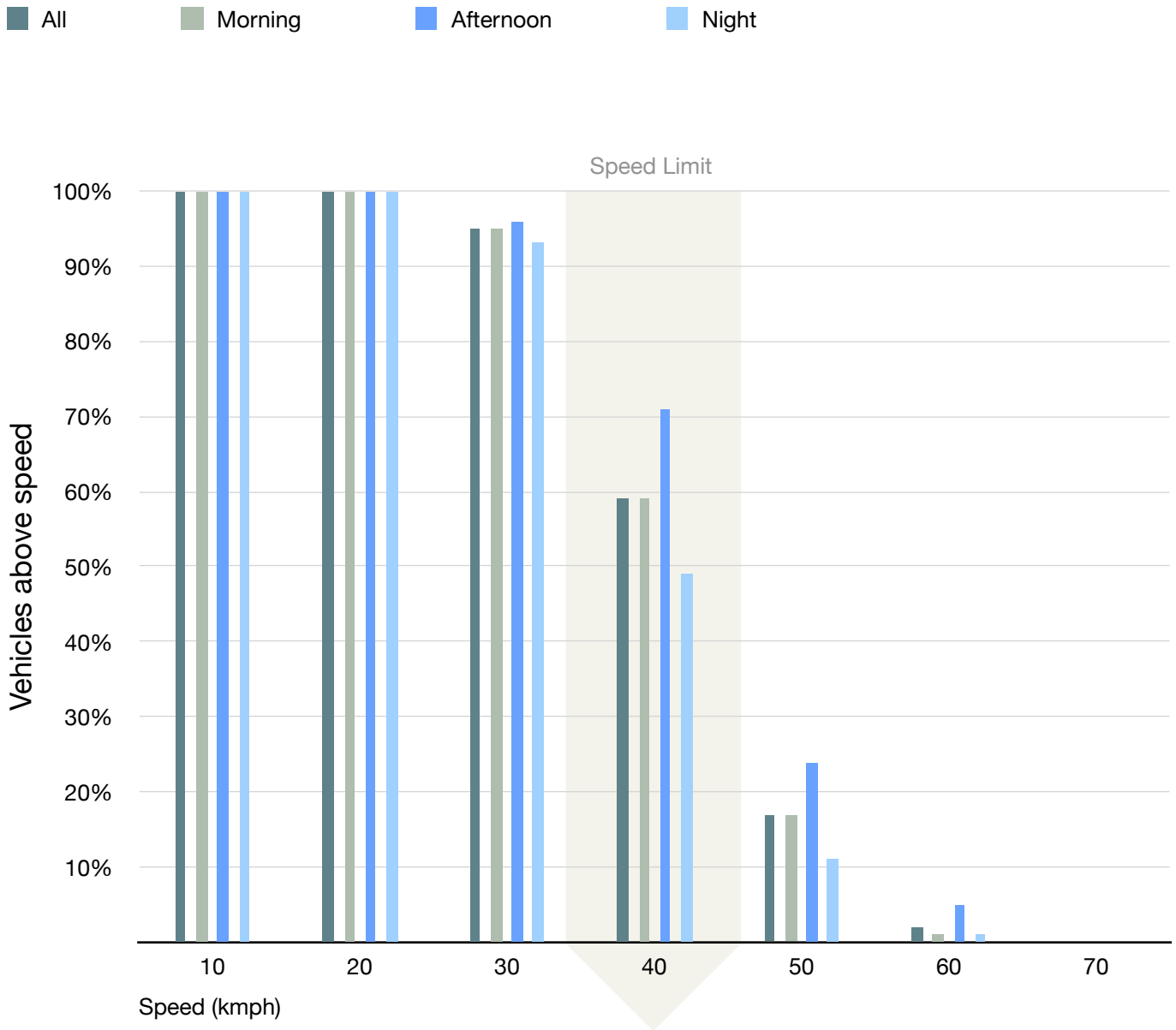
Speed limit	All	Four-wheelers	Two-wheelers	Heavy Vehicles	Three-wheelers
40 kmph	59%	72%	56%	67%	46%

We find that 59% vehicles exceed the designated speed limit. However, we find that more four-wheelers exceed the speed (72%) as compared to other vehicles.



# Speeding

## By time of day



Speed limit	All	Morning	Afternoon	Night
40 kmph	59%	59%	71%	49%

We find that that at afternoon speeds tend to be higher, with 71% of vehicles going above 40 kmph as compared to 59%/49% in the morning and night.

# Speed Survey Data Sheet

Name of the surveyor \_\_\_\_\_

Name and description of the street \_\_\_\_\_

Google map link \_\_\_\_\_

Posted Speed limit \_\_\_\_\_

Date & Time (Start to End) \_\_\_\_\_ & \_\_\_\_\_ To \_\_\_\_\_

Type of vehicle	Speed	Type of vehicle	Speed	Type of vehicle	Speed



# Speed survey in urban Maharashtra

2021



ROAD SAFETY  
NETWORK