

Intelligent Use of Mobile Positioning Data to Measure Domestic Tourism in Peru

Vamos Pal Norte Case of Study
November, 2018



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Objetives

- Show an alternative approach to analyze domestic tourism movements based on mobile positioning.
- Present the main results of Vamos Pal Norte Case of Study.



Mobile Positioning

Benefits

It is an effective method to collect data which raises interest within the tourism research community.

It can be complemented by traditional data collecting methods.

It helps to reduce costs of collecting data for decisions regarding tourism campaigns.

Samples can be bigger than samples covered by traditional surveys.



Barriers

It does not consider information about travel behavior such as travel motivations, planning, among others.

It must consider legal aspects of privacy law and data protection.

The operator can charge a fee for using technology to process data.

It is vulnerable to communication market characteristics such as cost of calls, ways of using mobile phones, lost connections, among others.

Current Sources to Measure Domestic Tourism

National tourism for vacations, based on the National Vacationer Profile Study made by surveys applied in households

Domestic tourism, based on the results of resident travel surveys (ENVIR).

Travel monitoring during the promotion campaign

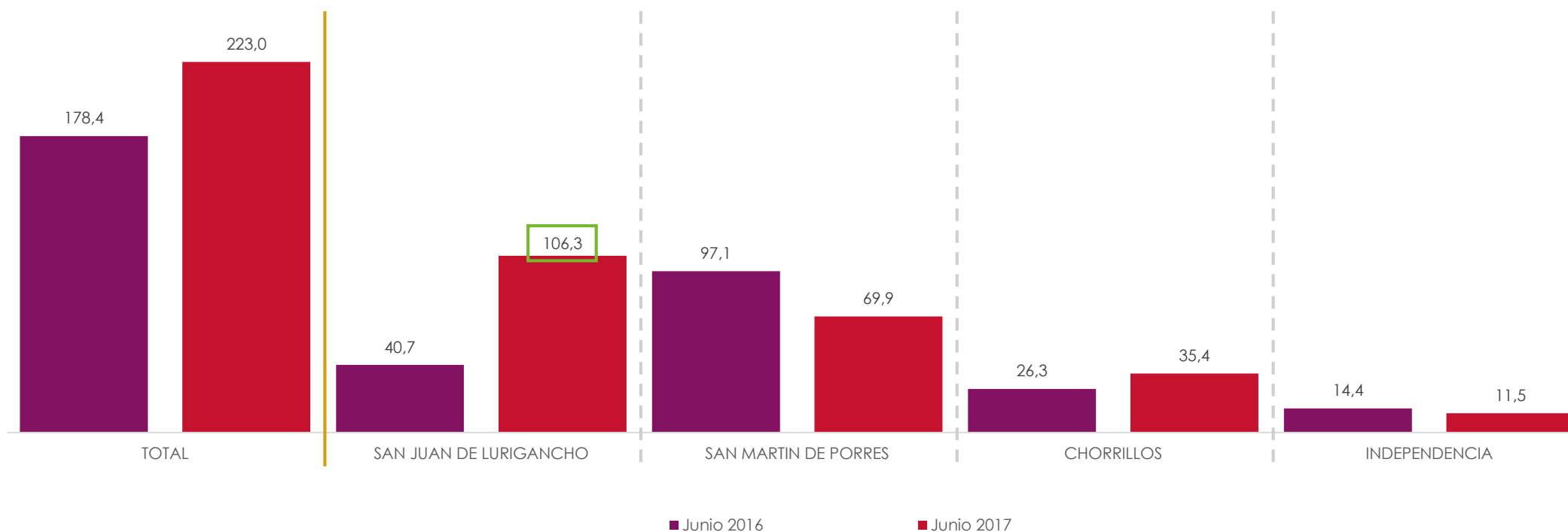
Mobilizations within the Lima region (interregional transfers)

Findings



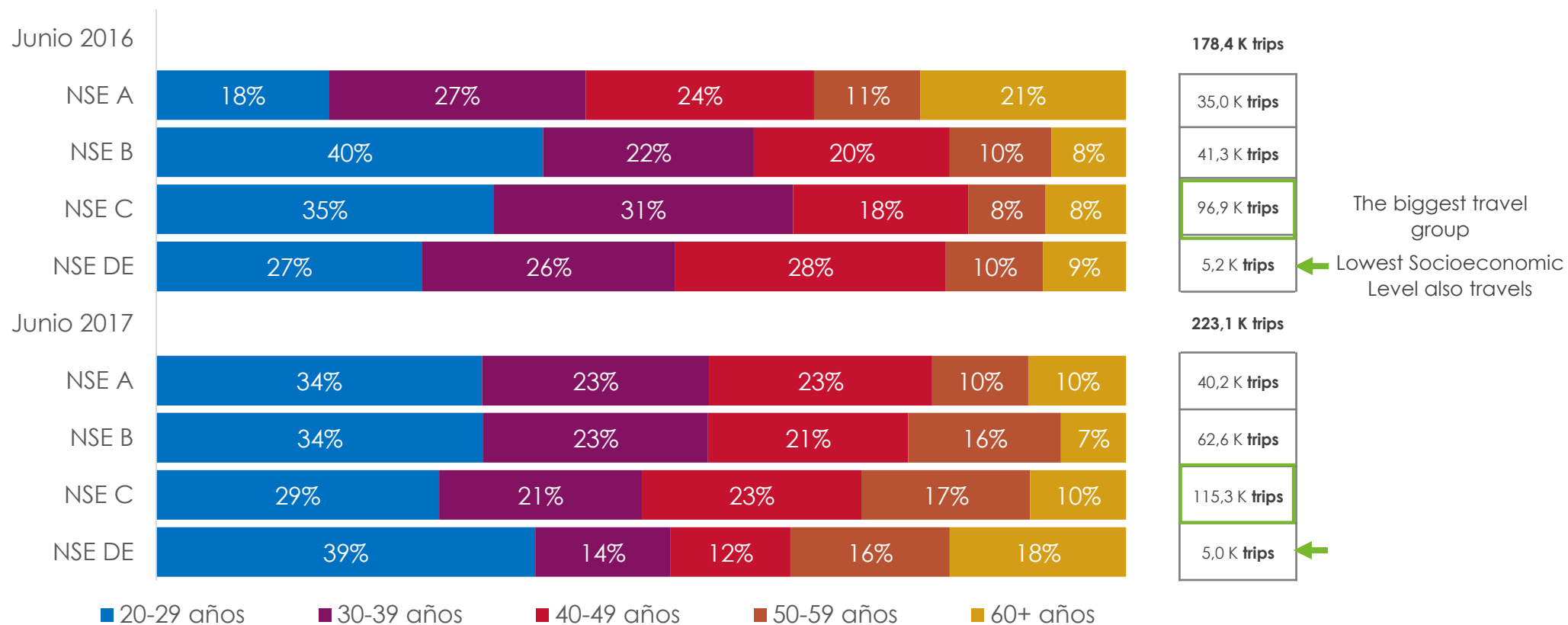
Trips outside Lima regions (interregional transfers)

Number of trips made by residents from Chorrillos, Independencia, San Juan de Lurigancho and San Martin de Porres districts to destination outside Lima region
(Constitutional Province of Callao is not included) (in thousands)



Travelers Profile

Distribution of trips by socioeconomic level and age range made by residents from Chorrillos, Independencia, San Juan de Lurigancho and San Martín de Porres districts to destination outside Lima region (Constitutional Province of Callao is not included) (in thousands = K)



Travel Flow Per Region

Number of trips made by residents of San Juan de Lurigancho district to destination outside Lima region (Constitutional Province of Callao is not included)
(in thousands = K)

Regions	June 2016	June 2017	Variation	Ranking 2016	Ranking 2017
Junín	4,13 K	21,61 K	424%	3°	1°
Ancash	6,23 K	10,73 K	72%	1°	2°
La Libertad	3,98 K	8,03 K	102%	4°	3°
Lambayeque	4,35 K	7,72 K	77%	2°	4°
Ica	2,25 K	7,42 K	230%	7°	5°
Ayacucho	1,35 K	6,46 K	378%	9°	6°
Huánuco	2,25 K	6,33 K	181%	8°	7°
Cajamarca	3,15 K	5,85 K	86%	5°	8°
Pasco	0,6 K	4,33 K	621%	18°	9°
Cusco	1,2 K	4,02 K	235%	10°	10°
Piura	3,15 K	3,91 K	24%	6°	11°
Arequipa	1,2 K	3,58 K	199%	11°	12°

Regions	June 2016	June 2017	Variation	Ranking 2016	Ranking 2017
Huancavelica	0,38 K	3,44 K	817%	20°	13°
San Martín	0,9 K	2,43 K	170%	15°	14°
Apurímac	1,05 K	2,17 K	107%	12°	15°
Ucayali	0,53 K	2,09 K	299%	19°	16°
Puno	1,05 K	1,58 K	50%	13°	17°
Amazonas	0,75 K	1,21 K	61%	16°	18°
Loreto	0,98 K	1,05 K	7%	14°	19°
Tacna	0,75 K	0,95 K	27%	17°	20°
Tumbes	0,15 K	0,73 K	383%	21°	21°
Moquegua	0,15 K	0,54 K	257%	22°	22°
Madre de Dios	0,15 K	0,10 K	-34%	23°	23°

● Northern regions

June 2016: 23 625
June 2017: 41 651
Variation: 76%

Travel monitoring during the promotion campaign

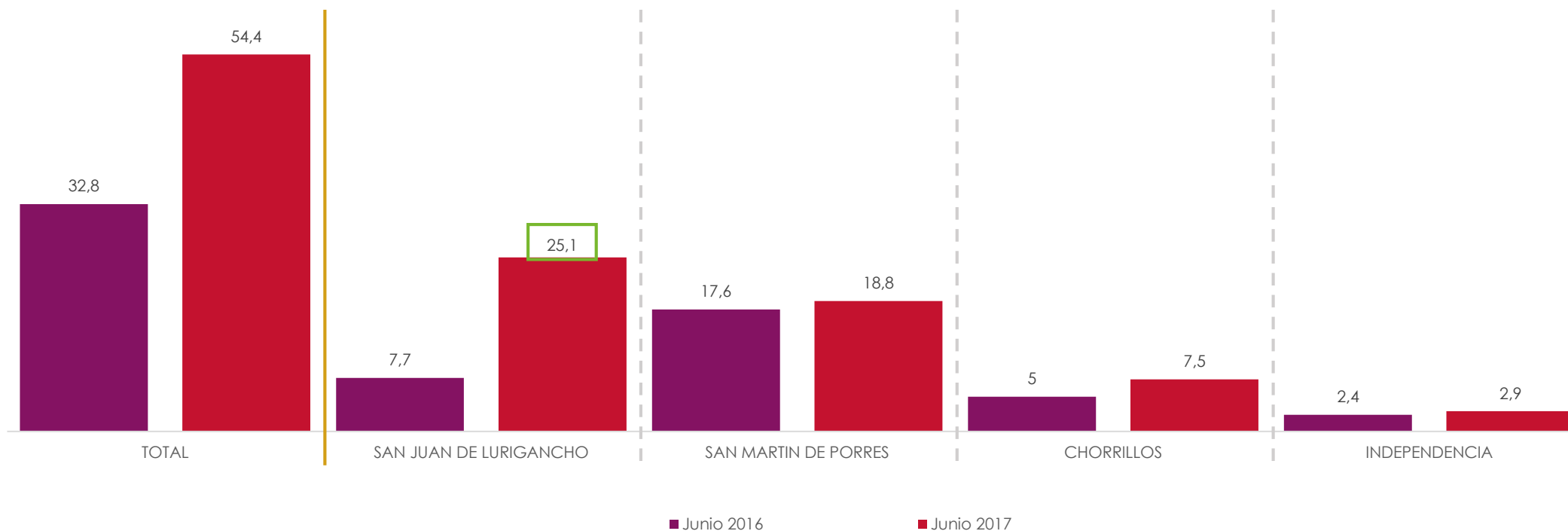
Trips outside Lima regions (intraregional transfers)

Findings



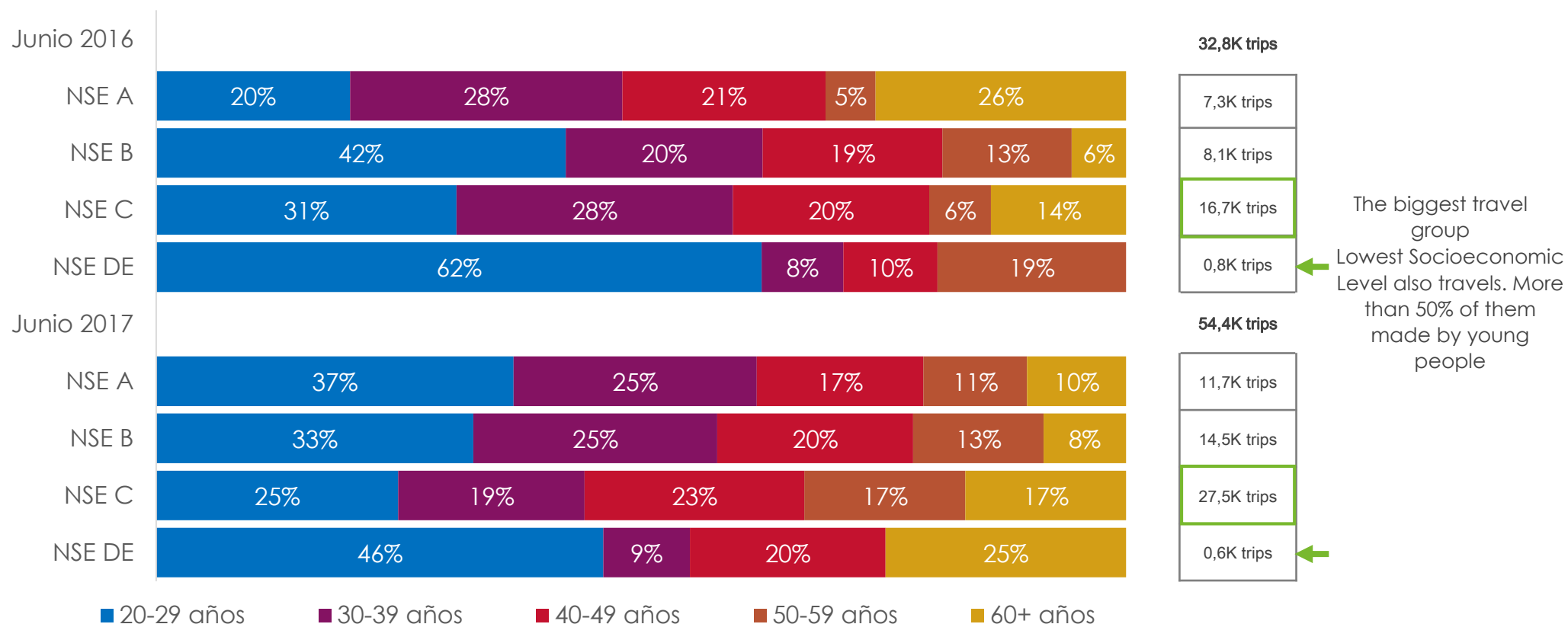
Trips outside Lima regions (intraregional transfers)

Number of trips made by residents from Chorrillos, Independencia, San Juan de Lurigancho and San Martin de Porres districts to provinces within Lima region
(Constitutional Province of Callao is not included) (in thousands)



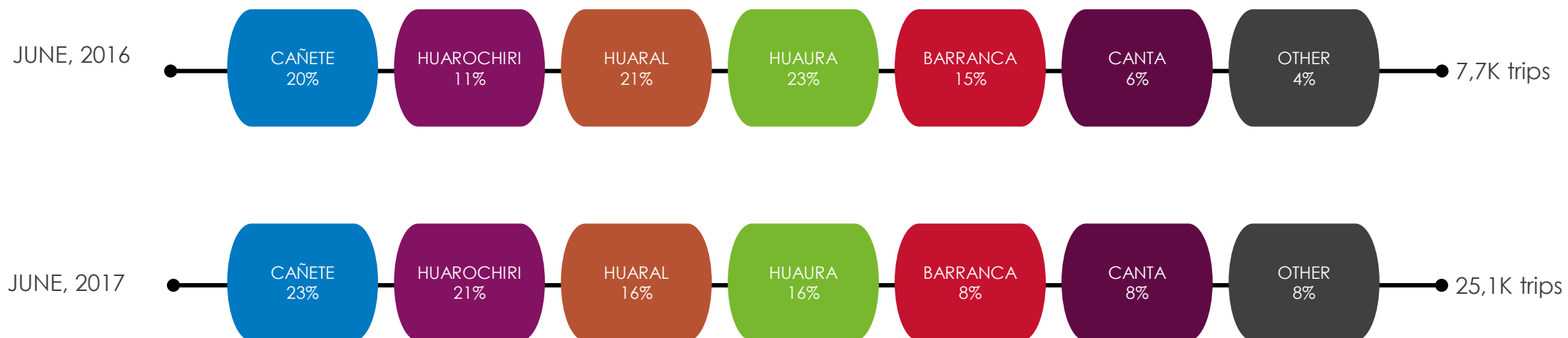
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Travel Flow – Most Visited Province

Mobilizations of residents of the district of San Juan de Lurigancho to Lima's provinces
(Constitutional Province of Callao is not included).



Conclusions

- The mobile positioning data were very useful to measure trips. It was found that most interregional trips departed from San Juan de Lurigancho district and travelers went mostly to Junín region, and residents from the city of Lima who traveled the most belonged to the low (C) socioeconomic level.
- The use of Big Data has allowed to measure, for the first time, the movement of population belonging to the lowest (DE) socioeconomic level; segments of the population that were not taken into consideration by traditional market research because of costs and accessibility limitations.
- In the case of *Vamos Pal Norte* campaign, it was found that residents from San Juan de Lurigancho district (lowest (DE) socioeconomic level) increased their travels by 76% their travels to northern regions, in contrast to the number of travels registered during June, 2016.
- In this sense, it is necessary to do further research based on mobile positioning data to measure the effects not only of specific campaigns, but also of other cases. In further researches it could be established if the mobile positioning data source serves also to evaluate population from other socioeconomic strata High/Medium (A and B) or if it is useful just for strata Low/Lowest (C, D and E).
- Additionally, it could be considered if the analysis of this type of information is feasible for all the Peruvian regions (urban areas) taking into consideration the antenna locations and access to the mobile broadband service throughout Peru (3G or 4G).

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