

# Analysis of Polish tourists in Lithuania using Mobile Positioning Data (MPD)

VšĮ „Keliauk Lietuvoje“, 2025

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# Introduction

This analysis aims to focus on the possibilities of Mobile Positioning Data (MPD) by analysing repeat trips, entry/exit gates and trip patterns. This research will serve as an addition to the regular data updates and the data currently displayed on the Lithuania Travel MPD dashboard. The methodology used aligns with the existing approach used for the Lithuanian Travel data dashboard.

Analysis focuses on **Polish inbound tourists'** behaviour in Lithuania. The analysis covers the data period from **October 2021 up to September 2025**.

Analysis is conducted by Positium.

# Methodology

- The analysis excludes subscribers whose Country of Residence (COR) has been reclassified as Lithuania.
- A period of 48 hours without any records is considered the "presence gap", after which a subscriber is presumed to have left Lithuania and subsequently returned.
- Subscribers can get the Usual Environment (UE) assigned within Lithuania. UE is determined at the county level. For example, if a Polish mobile subscriber gets a work anchor assigned in Vilnius, Vilnius county will be labelled as their Usual Environment and their presence inside Vilnius county is not considered as tourism. According to the methodology used, a current tourism trip concludes when a subscriber enters a county designated as their Usual Environment. A new tourism trip only starts after the subscriber departs from that UE county.
- An Anchor Point refers to an important location in subscriber's Usual Environment. Anchor Points can be divided into three categories: home, work and other regular anchor points. The main distinctive characteristic of an Anchor Point is time spent in the location – this information is used to determine whether any specific location is important and visited frequently enough to become an Anchor Point.
- All trips lasting less than 3 hours were excluded. This includes trips that took place only inside the predefined transit corridor.
- To enhance the accuracy of entry and exit gate analysis, stays labelled as "move points" were also incorporated.
- To minimize data "noise," the trip pattern analysis only incorporated stays in a municipality that lasted longer than one hour.

# Repeat visitors

Table 1 illustrates the distribution of Polish visitors to Lithuania based on the frequency of their tourism trips throughout the entire data period. 63% of all visitors were single-trip tourists who did not make a return visit during the analysed period of time. 37% of Polish tourists visiting Lithuania were repeat visitors. A significant portion of Polish tourists visited Lithuania multiple times, with 16% making two trips and an even greater share, 21%, making three or more tourism trips to the country.

<b>Table 1. Polish tourists share by number of tourism trips to Lithuania</b>	
<b>Tourism trip count</b>	<b>% of visitors</b>
<b>1</b>	63%
<b>2</b>	16%
<b>3</b>	6%
<b>4</b>	4%
<b>5</b>	2%
<b>6</b>	2%
<b>7</b>	1%
<b>8</b>	1%
<b>9</b>	1%
<b>10+</b>	4%

Table 2 shows the characteristics of repeat visitors from Poland, who make up 37% of the total Polish tourist population (as indicated in Table 1). Each repeat visitor was categorized based on their most frequent time interval between consecutive tourism visits.

<b>Table 2. Polish repeat visitors classification based on time between tourism trips</b>	
<b>Repeat visitation category</b>	<b>% of repeat visitors</b>
<b>Up to 1 week</b>	34%
<b>1 week to 1 month</b>	25%
<b>1 month to 1 quarter</b>	15%
<b>1 quarter to 1 year</b>	18%
<b>More than 1 year</b>	7%

The classification of Polish repeat visitors indicates a market dominated by high-frequency travel patterns, with nearly 60% of all recurring visitors returning at least once per month. These trips are likely related to business, logistics, or cross-border services, treating the destination as a standard part of their habitual environment rather than a seasonal vacation spot.

The "1 month to 1 quarter" (15%) and "1 quarter to 1 year" (18%) segment users exhibit a more traditional tourism or familial pattern, likely returning for seasonal breaks, specific holidays, or quarterly business cycles.

7% of repeat visitors fall into the "More than 1 year" category as their primary behaviour. This underscores the high retention and relevance of the destination for the Polish market. If a Polish traveller decides to return to Lithuania, they are overwhelmingly likely to do so within the same calendar year.

Table 3 illustrates the distribution of Polish repeat visitors according to their frequency travel patterns and count of their tourism trips to Lithuania combined.

<b>Table 3. Polish repeat visitors share by time between tourism trips and number of tourism trips to Lithuania</b>			
<b>Repeat visitation category</b>	<b>Visitors with 2 trips</b>	<b>Visitors with 3-6 trips</b>	<b>Visitors with 7+ trips</b>
<b>1. Up to 1 week</b>	12.8%	11.0%	4.9%
<b>2. 1 week to 1 month</b>	8.5%	10.0%	8.2%
<b>3. 1 month to 1 quarter</b>	6.1%	6.9%	3.5%
<b>4. 1 quarter to 1 year</b>	10.4%	7.8%	1.9%
<b>5. More than 1 year</b>	7.2%	0.8%	0.0%

Most of the "Up to 1 week" segment is generated by visitors who make only 2 trips (12.8% of users). This likely indicates that significant number of Polish tourists travel through Lithuania to reach Latvia or Estonia and spend more than 48 hours there. In this case, their travel back is counted as a separate visit.

# Entry and exit gates

The combinations of municipalities where Polish tourists start and end their tourism trip are detailed in Table 4.

Table 4. Polish tourism trips entry and exit municipality combinations		
Entry municipality	Exit municipality	% of tourism trips
Kalvarija municipality	Kalvarija municipality	9%
Lazdijai district municipality	Lazdijai district municipality	8%
Vilnius city municipality	Vilnius city municipality	4%
Kalvarija municipality	Pasvalys district municipality	4%
Pasvalys district municipality	Kalvarija municipality	3%
Kalvarija municipality	Marijampolė municipality	2%
Kalvarija municipality	Lazdijai district municipality	2%
Klaipėda city municipality	Klaipėda city municipality	2%
Marijampolė municipality	Kalvarija municipality	2%
Lazdijai district municipality	Druskininkai municipality	1%
Kalvarija municipality	Zarasai district municipality	1%
Kalvarija municipality	Vilnius city municipality	1%
Kalvarija municipality	Kėdainiai district municipality	1%
Kalvarija municipality	Vilnius district municipality	1%
Lazdijai district municipality	Kalvarija municipality	1%
Lazdijai district municipality	Vilnius city municipality	1%
Vilnius district municipality	Vilnius district municipality	1%
Druskininkai municipality	Druskininkai municipality	1%
Druskininkai municipality	Lazdijai district municipality	1%
Vilnius city municipality	Vilnius district municipality	1%
Kalvarija municipality	Kaunas city municipality	1%
Vilnius district municipality	Vilnius city municipality	1%
Kalvarija municipality	Kaunas district municipality	1%
Marijampolė municipality	Pasvalys district municipality	1%
Other	Other	50%

Table 5 shows the total share of trips where entry and exit municipality was the same and share of trips where a tourism trip started in one municipality but ended in another.

<b>Table 5. Polish tourism trips - same vs different entry and exit municipality</b>	
<b>% of trips with different entry and exit</b>	68%
<b>% of trips with same entry and exit</b>	32%

Figure 1 illustrates visually the distribution of Polish tourist trips based on their entry and exit municipalities. The flow diagram uses line thickness to represent the proportion of trips between specific municipalities. For clarity, the 10 municipalities with the highest volume of entry trips are shown individually, while all other municipalities are grouped together as "Other regions."

The analysis of Polish tourist entry and exit gates reveals a strong dominance of border-zone movements. The primary concentration of activity is at the major border crossings, with Lazdijai and Kalvarija municipalities acting as the main gateways between Lithuania and Poland. There is a high volume of "self-loops" (entry = exit) in these border regions.

Evidence of the influence of the Via Baltica transit route is visible in the corridor between Kalvarija municipality and Pasvalys municipality, indicating a consistent flow connecting Poland to Latvia. Major internal hubs like Marijampolė, a logistics staging area near the border, also show significant interaction with the border municipalities. In contrast, major destinations like Vilnius and Klaipėda show comparatively lower volumes.

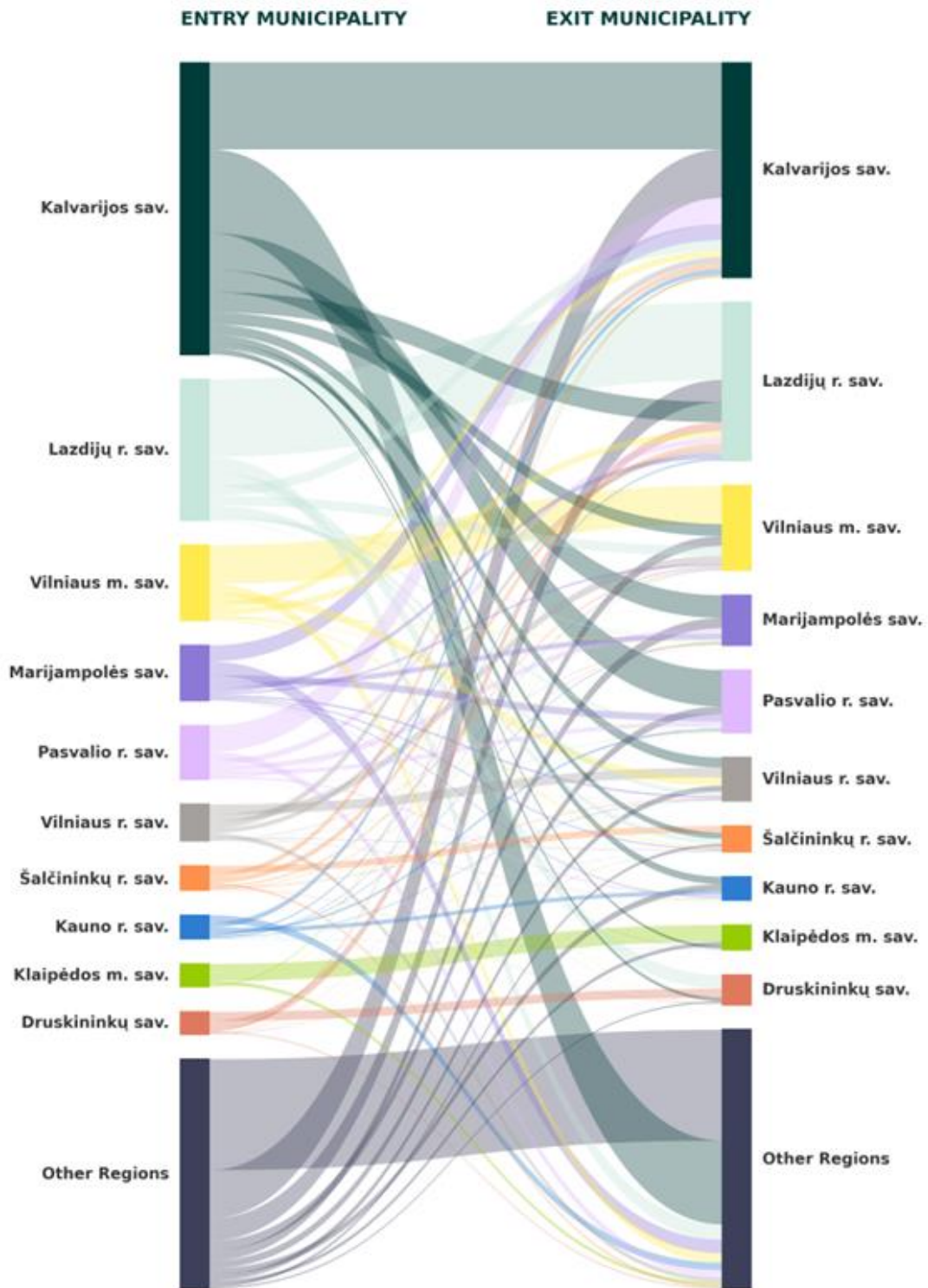


Figure 1. Primary entry and exit municipality combinations

# Tourism trip patterns analysis

Table 6 shows 20 of the most popular trip patterns for Polish tourists. For this analysis tourism trips with only one unique municipality visit were left out.

**Table 6. Most popular sequence of visited municipalities by Polish tourists (for trips involving visits to two or more municipalities).**

Visit sequence	% of tourism trips patterns
Vilniaus m. sav. -> Vilniaus r. sav.	2.54%
Vilniaus m. sav. -> Trakų r. sav.	1.97%
Trakų r. sav. -> Vilniaus m. sav.	1.6%
Vilniaus r. sav. -> Vilniaus m. sav.	1.19%
Kalvarijos sav. -> Pasvalio r. sav.	1.04%
Kėdainių r. sav. -> Pasvalio r. sav.	1.02%
Druskininkų sav. -> Lazdijų r. sav.	1%
Lazdijų r. sav. -> Druskininkų sav.	0.92%
Panevėžio r. sav. -> Pasvalio r. sav.	0.74%
Pasvalio r. sav. -> Panevėžio r. sav.	0.73%
Marijampolės sav. -> Kalvarijos sav.	0.71%
Vilniaus m. sav. -> Trakų r. sav. -> Vilniaus m. sav.	0.69%
Kalvarijos sav. -> Vilniaus m. sav.	0.59%
Kauno r. sav. -> Pasvalio r. sav.	0.57%
Kauno m. sav. -> Vilniaus m. sav.	0.55%
Vilniaus m. sav. -> Lazdijų r. sav.	0.55%
Vilniaus m. sav. -> Šalčininkų r. sav.	0.55%
Kalvarijos sav. -> Marijampolės sav.	0.53%
Kauno m. sav. -> Kauno r. sav.	0.52%
Vilniaus m. sav. -> Kalvarijos sav.	0.49%

Table 7 shows the most popular trip patterns for Polish tourists taking also into account the visit length in a municipality (long: >12 h, medium: 3-12 h, short 1-3 h). For this analysis tourism trips with only one unique municipality visit were left out.

**Table 7. Most popular sequence of visited municipalities by Polish tourists (for trips involving visits to two or more municipalities).**

(Trip duration categories: *Long*: over 12 hours; *medium*: 3-12 hours; *short*: 1-3 hours).

Visit sequence	% of tourism trips patterns
Vilnius city mun. (Long), Trakai r. mun. (Short)	0.58%
Trakai r. mun. (Short), Vilnius city mun. (Medium)	0.54%
Vilnius city mun. (Short), Vilnius r. mun. (Short)	0.48%
Vilnius city mun. (Long), Trakai r. mun. (Medium)	0.48%
Vilnius city mun. (Medium), Vilnius r. mun. (Short)	0.39%
Kalvarija mun. (Medium), Pasvalys r. mun. (Medium)	0.38%
Vilnius city mun. (Long), Vilnius r. mun. (Short)	0.37%
Vilnius city mun. (Medium), Trakai r. mun. (Short)	0.37%
Kalvarija mun. (Long), Pasvalys r. mun. (Long)	0.35%
Vilnius city mun. (Medium), Vilnius r. mun. (Medium)	0.34%
Vilnius city mun. (Short), Vilnius r. mun. (Medium)	0.34%
Kėdainiai r. mun. (Medium), Pasvalys r. mun. (Medium)	0.33%
Trakai r. mun. (Short), Vilnius city mun. (Long)	0.32%
Vilnius city mun. (Long), Trakai r. mun. (Medium), Vilnius city mun. (Long)	0.29%
Kėdainiai r. mun. (Long), Pasvalys r. mun. (Long)	0.27%
Vilnius city mun. (Long), Vilnius r. mun. (Medium)	0.25%
Druskininkai mun. (Long), Lazdijai r. mun. (Short)	0.24%
Druskininkai mun. (Medium), Lazdijai r. mun. (Short)	0.23%
Pasvalys r. mun. (Medium), Panevėžys r. mun. (Medium)	0.23%
Marijampolė mun. (Long), Kalvarija mun. (Long)	0.22%

The vast majority of the top-ranking trip patterns revolve around Vilnius city municipality and Trakai r. municipality or Vilnius r. municipality. The single most popular multi-destination pattern is Vilnius city municipality (Long), Trakai r. municipality (Short) at 0.58%, indicating a common tourist itinerary involves a primary, long stay in the capital city with a short side trip to the historical Trakai region. These sequences typically feature *Long* (over 12 hours) or *Medium* (3–12 hours) stays in Vilnius, confirming its role as the anchor for longer, leisure-oriented city breaks. The short stays (1–3 hours) in Trakai reinforce its status as a popular day trip destination.

Trips involving municipalities like Kalvarija, Pasvalys, Kėdainiai, and Marijampolė often show *Medium* (3–12 hours) or *Long* (over 12 hours) stays in transit-related hubs (e.g.,

Kalvarija mun. (Medium), Pasvalys r. mun. (Medium)). These patterns suggest longer stops for rest, business logistics, or breaking up the long Via Baltica journey.

The patterns Druskininkai mun. (Long/Medium), Lazdijai r. mun. (Short) highlight the importance of the resort town of Druskininkai as a standalone, multi-day destination (Long stay). The subsequent short visit to Lazdijai suggests these visitors are exiting Lithuania quickly through a nearby border gate after their stay.

The sequence Marijampolė mun. (Long), Kalvarija mun. (Long) indicates a specific type of long-duration activity occurring near the southern border, likely related to business, logistics, or an extended stay for a specific purpose near the major border crossing.

Table 8 illustrates which municipalities were visited during trips to Lithuania. One in three Polish trips (33.4%) involves the capital city of Vilnius, confirming its role as the primary destination for traditional tourism. Kalvarija follows with a high involvement rate of 23.7%. This significance is shared by other border-area municipalities, such as Marijampolė (12.7%) and Lazdijai (10.8%). Together, these regions form a critical "front door" for Polish road travellers, serving as essential entry points and frequent stops for fuel, food, or short-duration utility visits. As the third most popular location, Kaunas (16.5%) acts as a strategic hub, reflecting its position as a major crossroads for travellers heading deeper into Lithuania or toward the Baltic coast.

**Table 8. TOP 20 municipalities for Polish tourists**

Municipality	Involvement Rate %
Vilniaus m. sav.	33.4%
Kalvarijos sav.	23.7%
Kauno m. sav.	16.5%
Pasvalio r. sav.	15.9%
Kauno r. sav.	13.4%
Marijampolės sav.	12.7%
Trakų r. sav.	12.3%
Vilniaus r. sav.	12.0%
Lazdijų r. sav.	10.8%
Kėdainių r. sav.	7.6%
Panevėžio r. sav.	7.2%
Klaipėdos m. sav.	7.2%
Druskininkų sav.	6.0%
Šalčininkų r. sav.	4.5%

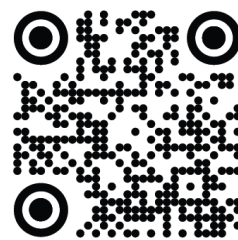
Klaipėdos r. sav.	4.5%
Prienų r. sav.	4.2%
Varėnos r. sav.	3.3%
Palangos m. sav.	3.1%
Raseinių r. sav.	2.9%
Kaišiadorių r. sav.	2.9%

## Let's connect

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