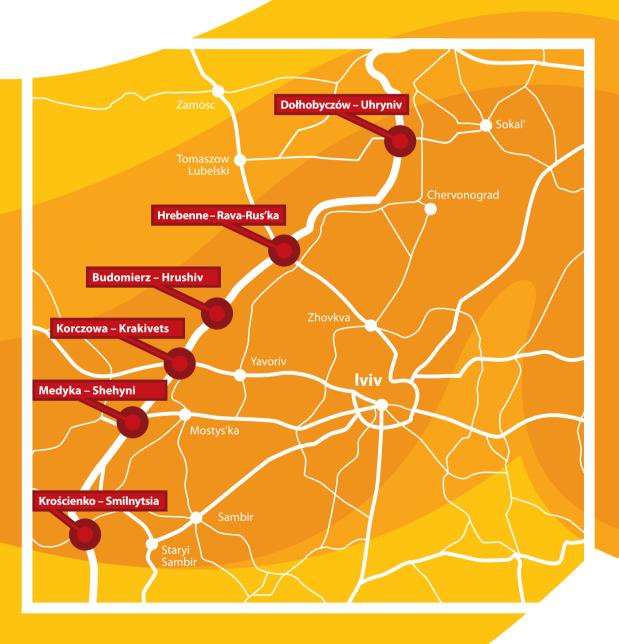
Lviv Region (Ukraine) - Poland:





MOBILE BORDER IN BETWEEN

author: Ruslan MINICH





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author: Ruslan MINICH

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PART **BIG DATA** AND BORDER

SIX BORDER POSTS BETWEEN UKRAINE AND POLAND

The border between Ukraine and Poland is the busiest one for both countries (see Figure 1. Crossing Ukrainian-Polish border). People crossed it over 10 million times just in the first half of 2019 and over 21 million times - in 2018.

Figure 1. CROSSING UKRAINIAN-POLISH BORDER

The border between Ukraine and Poland is the busiest one for both countries. 2018, million





Data sources: Polish State Guard, The Border Guard Service of Ukraine

Polish Border Guard, statistics, January - June 2019, http://bit.do/ffi6N

In the previous study called *Living Near* the Border: The Cases of Shehyni and Uhryniv Communities, we largely analysed two local communities in Shehyni and Uhryniv who live near the borderline. The entire border section was considered too where possible and appropriate as well as where the data were available. At the same time, the primary focus was on these two communities. We interviewed (1) local and regional officials, customs, border guards; (2) influencers from civil society, business, media, and academia; and (3) people living at the border. Locals are the main clients and consumers experiencing border presence every day. They are also the stakeholders who have a profound impact on the border. We could not but need to consider them in order to unveil deep roots of the challenges the borderland is facing as well as the opportunities and potential it contains.

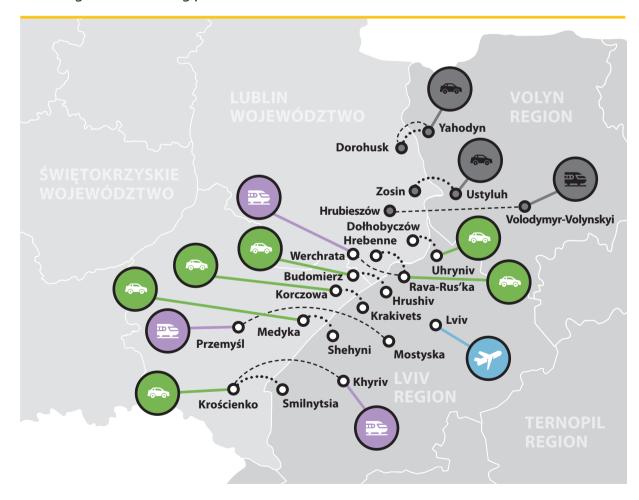
Here we aim at extending the study to **all** border posts in **Lviv region** where you can cross by **car**. Cars are the most popular way to enter Poland for Ukrainians.³ And Lviv region hosts six out of the eight such crossing points between Ukraine and Poland (**see Figure 2.** Which border posts and why).

THEY ARE:

- · Uhryniv-Dołhobyczów,
- Rava-Rus'ka-Hrebenne,
- · Hrushiv-Budomierz,
- · Krakivets-Korczowa,
- Shehyni-Medyka, and
- Smilnytsia-Krościenko.

Figure 2. WHICH BORDER POSTS AND WHY

Cars are the most popular way to enter Poland for Ukrainians. And Lviv region hosts six out of the eight such crossing points between Ukraine and Poland.



Data source: The State Border Guard Service of Ukraine

Minich, Ruslan. "Living Near the Border: The Cases of Shehyni and Uhryniv Communities," Kyiv, 2019, http://bit.do/ffjyV

Shehyni-Medyka 6.02
Krakivets-Korczowa 4.06
Yahodyn-Dorohusk 3.33
Rava-Rus'ka-Hrebenne 3.10
Ustyluh-Zosin 1.96
Hrushiv-Budomierz 1.82
Smilnytsia-Krościenko 1.37
Uhryniv-Dołhobyczów 1.32
Lviv 0.56
Mostyska-Przemyśl 0.13
Yahodyn-Dorohusk 0.11
olodymyr-Volynskyi-Hrubieszów 0.02
Rava-Rus'ka-Werchrata 0.003
Khyriv-Krościenko 0 million

This allows us to see a bigger picture. As a result, we come up with **policy ideas** how borderland infrastructure could better meet travellers' needs.

WHY BIG DATA?

The primary source of data is the State Border Guard Service of Ukraine. They track virtually everyone who comes into the country or leaves it. We have this aggregated data in response to the official request and use them in this research.

Its capacity is, nonetheless, limited. We can see when Ukrainians and foreigners travel, which border posts they select, and whether they head towards Ukraine or leave the country. But the data cannot tell who travels, where they are from, and where exactly they go (see Figure 3. Why mobile data). Consider an example, we can see the volume of local border traffic in the Polish border guards' reports.⁴

However, locals living within 30-50 km from the border line can cross it without visa since 2017 due to the visa-free regime with the EU. Therefore, it is worth to look at people living within this area, how often they cross the border, instead of considering permits of local border traffic counted by border guards. And telecom data allow us to do just that. Moreover, we can discover where borderland infrastructure meet travellers' need and where it could do better. We look at who travels, where s/he is from and where s/ he heads for, why they select this border post or this route and not the other one to do that.

Figure 3. WHY MOBILE DATA



Therefore, we resort to big data and, particularly, to Kyivstar. It is one of the biggest mobile operators in Ukraine with about 26 million users⁵ while the population of Ukraine is about 41-42 million, according to Ukrainian statistics service.⁶ In September 2019, Kyivstar pulled out data about people who were at 6 road border posts in Lviv region during 13 months from July 2018 to July 2019. This time frame allows to take into account and analyse seasonal fluctuations of people. For instance, more foreign tourists visit Ukraine in summer. Also, local

residents go for seasonal work to Poland.

Kyivstar extracted information about over 14 million border crossings. The share of foreigners is much smaller, almost 300 thousand, which reflects the reality on the ground (similar disproportion is present in the data of the State Border Guard Service of Ukraine). The sample size remains big, though, significantly contracting confidence interval estimations. We consider crossings instead of people since the idea is to evaluate the pressure on the border posts, its reasons and ramifications.

WHAT MOBILE DATA CAN(NOT) TELL US

A user is seen by a Kyivstar's base station covering the crossing point if s/he makes some action here like a phone call, texting, or surfing the Internet and/or social media. Then we look at where this user was before and after coming at the border post. We can see which region s/he is coming from and where s/he heads to, gender, age, and income.

It is easier to see a Ukrainian user abroad since s/he should not make any action to be discovered. It is enough to switch on your smartphone, and you receive the greeting SMS and text messages with the home country embassy contacts and roaming tariffs.

For this reason, it is easy to overestimate the volume of exits and underestimate returns to Ukraine. The picture can be further distorted due to the fact that many people - so-called 'shuttle traders', i.e., locals who hop the border to sell cigarettes or alcohol in Poland, stock up there, and then sell food products back in Ukraine, - are considered by Kyivstar only while leaving Ukraine. They are a big share of travellers.

At the same time, there are cases when we know where a person was before coming to the border post. But then this person disappears without a trace from our sight. Contrary situations are not uncommon too. Or even a person may appear at the crossing point without a trace 24 hours before and 24 hours after. Many people have a few SIM cards and may change them, or they may switch the phone off. This is how they may disappear. In any case, it is hard to classify these people as entering or leaving Ukraine.

Taking into account these concerns, we had to renounce the idea of comparing entries and exits to gauge emigration volumes to Poland. The official data from border guards service gives number of about 214,000 people who have not returned from July 2018 to July 2019 via six border posts under consideration. However, we cannot exclude a possibility that they returned via other crossing points. Also, we consider only a sample of people from Kyivstar's database for some purposes. For instance, we look only at people who, we are sure, left the country to define the popular country destinations. The number of observations remains, nonetheless, significant accounting for millions of crossings.

CAN WE TRUST THE DATA?

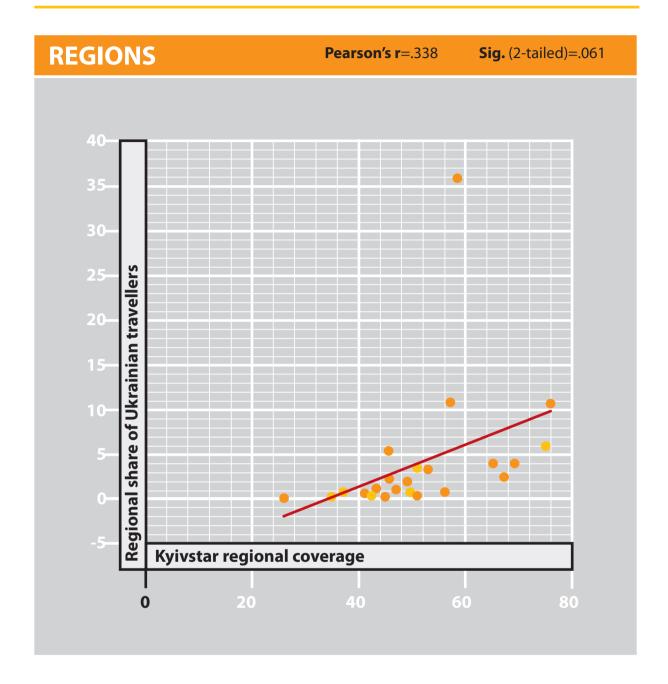
The first safeguard is to see whether the **mobile operator's coverage in regions** does not distort the real picture. Let's say we see a skew to a significantly bigger number of travellers from Lviv region than from any other one. Is that because people living here more willingly cross the Ukrainian-Polish land border, which does make sense since they are the closest to the six border posts? Or do we see this just because Kyivstar may feast on its popularity in the region and this does not reflect the reality?

Figure 4. Regional differences in data: Are they real? confirms our expectations. There are groups of regions with roughly similar Kyivstar popularity, however, with

discernible difference in the number of Ukrainians who opt for our six border posts. So the popularity of Kyivstar in the regions does not tamper with our data. And we can trust the regional differences of travellers. This conclusion is confirmed by weak association between these two variables, Kyivstar's regional coverage and regional share of Ukrainian travellers (Pearson's correlation coefficient r is 0.39). In addition, it is not statistically significant, i.e., this association can be observed just because of a random chance (2-tailed test, alpha = 0.06). The information on the Kyivstar coverage of foreign citizens is unfortunately absent. So we cannot apply the same method.

Figure 4. REGIONAL DIFFERENCES IN DATA: ARE THEY REAL?

Kyivstar regional coverage does not affect the regional data on the share of Ukrainians opted for our six border posts.



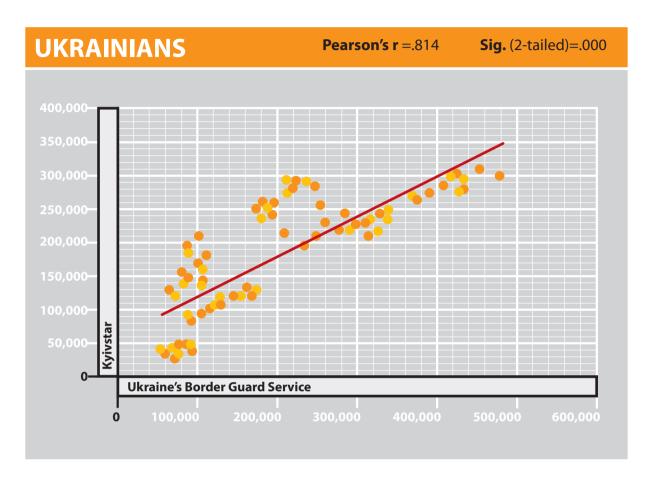
We compare telecom data with **official border guards statistics** to further check whether it reflects the reality. They have a bigger database though with less information about travellers (**see Why Big Data section**). They check all entries and exits and have no problems with catching signals, phones in off-mode, or switching SIM cards. So we compare monthly data on each border post selected. Here we can look at both Ukrainians and foreigners. The size and relative proportions of those who were at these crossing points

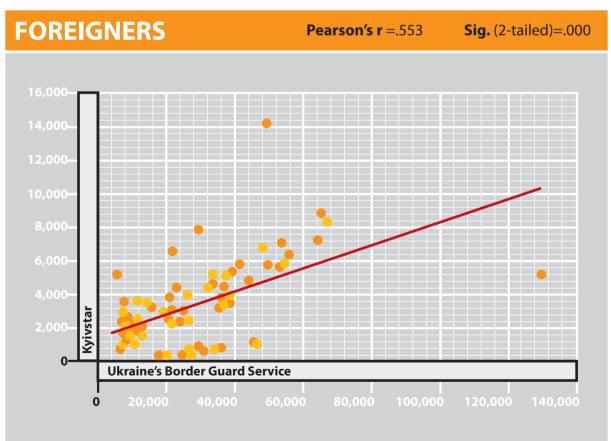
are largely similar conforming quality of our data (**see Figure 5.** Telecom data reflects reality, we have the grounds to think to) since the dots are not scattered around the plot and approximate a straight line. This conclusion is supported by strong association between two datasets for Ukrainians (Pearson's r is 0.81) and the moderate one for foreigners (Pearson's r is 0.55). Both of them are statistically significant (alpha is .000, 2-tailed test).

So we can trust our telecom data. The next question is what to do with this pool.

Figure 5. TELECOM DATA REFLECTS REALITY, WE HAVE THE GROUNDS TO THINK SO.

Kyivstar's data is largely similar to border guards' statistics on crossings in size and proportions. So we can trust it.





SO, WHAT DID WE DO WITH DATA?

The six border posts are the main focus of the study. We count people who are the main consumers, in particular, their gender, age, income, places of departure and destination. Therefore, our variables are mainly **nominal** except age and income. Their categories are not numerical and cannot be ranked (e.g. male or female for gender). For instance, Shehyni and Uhryniv are different border posts but neither category is more or less border post than the other. For this reason, we compare relative size of categories with **percentages and proportions**.

The **Cramer's V** is applied to measure **associations**, how strong is the association between two variables. For instance, we apply it to see whether the region where

the Ukrainian traveller is from influences the choice of a particular crossing point or whether the destination country affects the choice of the border post. We select this measure since it can be applied to nominal variables. Also, we compare six border posts with 24 regions and 50 km-borderland and with destination countries. Cramer's V allows us to do this since it has virtually no limits on the number of categories.

We evaluate the statistical significance of the Cramer's V to see whether the obtained association is consistent or just because of a random chance. Of course, it measures just the strength of relationship, and not causal relations. Therefore, Cramer's V is used as an addition tool to support our hypotheses.

NO, WE CANNOT TRACK PEOPLE

For each task in mind, we receive a separate table from Kyivstar. Every table contains **aggregated** number of times people cross the border posts divided by age, gender, income, region, and/or country. There are no names or phone numbers or any other personal information. Therefore, we have no means to establish who exactly crosses the border respecting and responding to possible **privacy** concerns.



Part 2. WHO **CROSSES** THE BORDER **AND WHERE** THEY GO

Ukrainians are the main stakeholders and users of our six border posts (see Figure 6. Border clients). About nine out of ten crossings are by Ukrainian citizens, as unveiled by the Ukrainian border guards' data. So let's look closer who they are.

LOCALS ARE MAIN CLIENTS

The majority of people who go to Poland are 20-40 years old men. They largely live within 50 kilometres from the border line. They are not rich, in fact the opposite – with low or middle income. Poland is important for people living within the 50 km from the border. Locals usually visit

the neighbouring country for work, shopping, or small-scale trade. "Unfortunately, our people cannot visit Poland just for sightseeing. There are many interesting places, but they can't. They mostly go for livelihood. They need money," grumbles a local priest.

Figure 6. BORDER CLIENTS

UKRAINIANS

Ukrainians living right next to the border are the main clients of its services. They are largely middle-aged men with low and middle income and head towards Poland.

LEAD 2,173,135 15,516,529 **FOREINGNERS UKRAINIANS** Note: of people to gauge who often

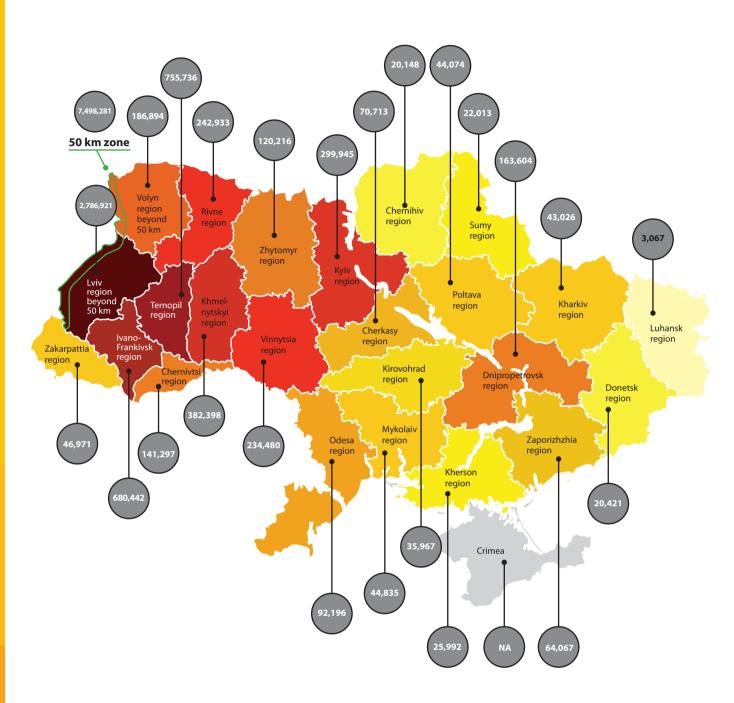


Data source: Kyivstar

POLICY IDEA

The travellers are largely locals with low and middle income. They usually go to Poland for work, shopping, or small-scale trading. Investments and infrastructure improvement could boost regional development relieving their plight.

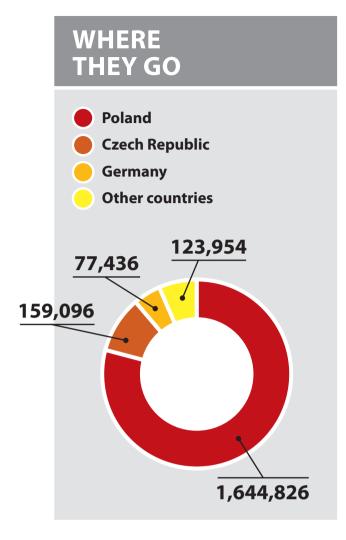
MAP UKRAINE

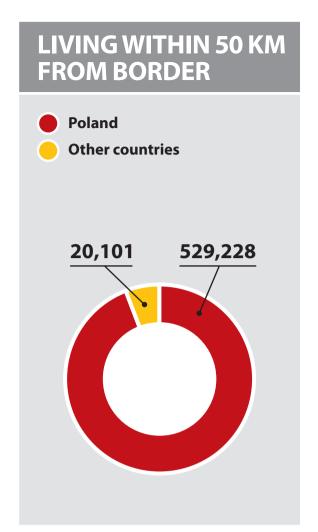


Data source: Kyivstar

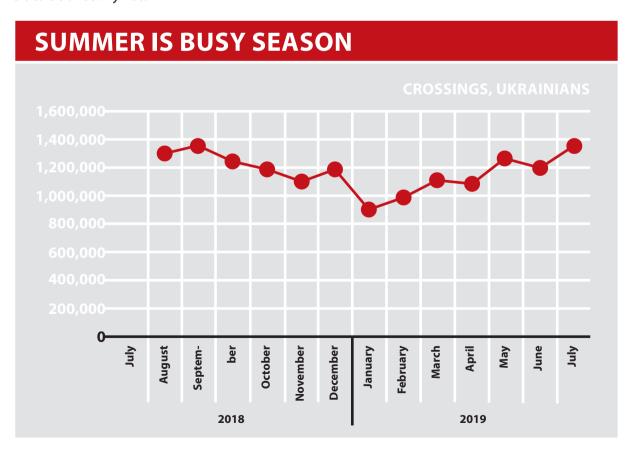
POLICY IDEA

Border management of this section should be tailored to the needs of locals and cater for them. They are the main stakeholders and consumers of its services.





Data source: Kyivstar



Data source: State Border Guard Service of Ukraine

For these reasons, border management of this section should be tailored to the needs of local residents and provide benefits for them. They are thirsty for investments, regional development, and tourism. Outsiders often spurn their lifestyle. "They sleep four hours in the car going to Poland and then four hours - back to Ukraine," describes shuttle traders an official in Lviv. Many of them go for a few months to Poland to make some lollies. But they cannot quit this without alternatives. "This does not contribute to economic development but is rather a way to meet ends," admits a

local school principal.

The Polish loan may be one of the remedies. Poland agreed to finance the reconstruction of three border posts and the repairment of five road sections in 2015. This could have boosted some local towns and villages that are virtually cut off the rest of the country and turned into flotsam and jetsam. However, the works are stalled yet (see Polish Money section).

Other infrastructure projects like filling stations, parkings, shops would not only make a journey more joyful but also could create new jobs and generate additional income to local budgets.

POLISH TOURISTS LIKE TO VISIT UKRAINIAN BORDERLAND

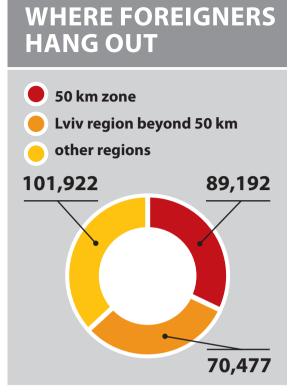
Poles are major foreign visitors crossing via the six border posts. Their destination is often places closer to the border or a bit deeper into Lviv region in particular to Lviv itself (see Figure 7. Poles are main visitors). "Our people often go to Poland for shopping while Poles' sheer aim is tourism," explains a local activist.

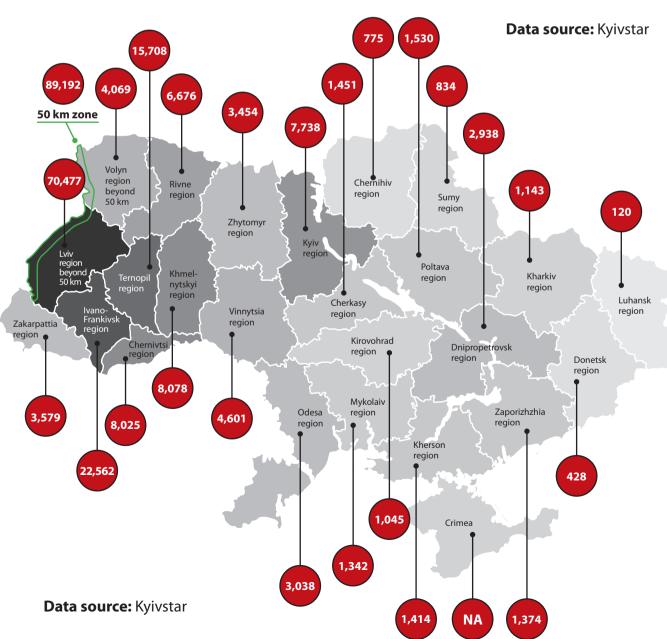
Figure 7. POLES ARE MAIN VISITORS

Ukrainian borderland is popular among Polish visitors. They often come here in summer.

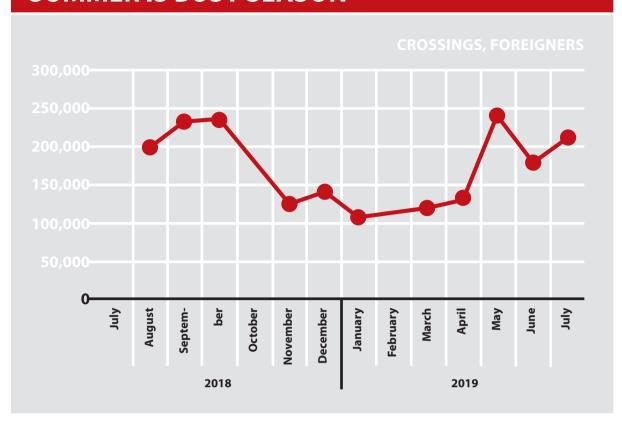


POLES ARE MAIN VISITORS Poland other countries 171,544









Data source: State Border Guard Service of Ukraine

POLICY IDEA

A possibility to cross on foot or by bike should attract more Polish tourists who like biking.

The ideas to lure more tourists is in the air when you come to the borderland. Locals admit the popularity of cycling among Polish citizens and, thus, the need to build cycling pathways to border posts.

A possibility to walk through a border post would serve this aim too. "Biking has become a new vogue among Poles. They like making bike tour across Ukraine. And pedestrian lane is the only option to cross the border with a bike," says a Sokal official. You can cross on foot only in Shehyni now. At the same time, new pedestrian lanes at other border posts should not become a shuttle trading points for Ukrainian border-

land residents. Pothole-free roads linking them to other regions should thwart a possible conservation and localisation (more on this in (No Longer) Crossing On Foot In Uhryniv section).

Another potential project is the one within the Cross-border Cooperation Programme Poland - Belarus - Ukraine 2014–2020 called *Bug Unites Us - Creation of Two Cross-Border Touristic Kayak Trails.*7 It entails 800 km of kayak trails, properly marked and filled with needed facilities. Local authorities go further: they propose to build infrastructure for water crossing at Bug river.

18



Representatives of the Joint Technical Secretariat of the Cross-border Cooperation (CBC) Programme Poland-Belarus-Ukraine participated in the kayaking on the river Bug organized by the *Bug Unites Us – Creation of Two Cross-Border Touristic Kayak Trails project* shortlisted during the first Call for Proposals, August 3, 2019.

Photo credits: PBU 14-20

The regional signature is unique and untouched nature and ancient architecture with hillforts. Sokal district authorities draft a tour route through some of them. The residents also admit a potential of religious tours since here are many places sacred for Poles so they organise pilgrimages.

Part 3. CLOSER **LOOK AT** BORDER POSTS

Our six border posts in focus are used by Ukrainians and foreigners in different manner. Here we look at peculiarities of each crossing points.

LOCAL RESIDENTS CONSUME DIFFERENTLY

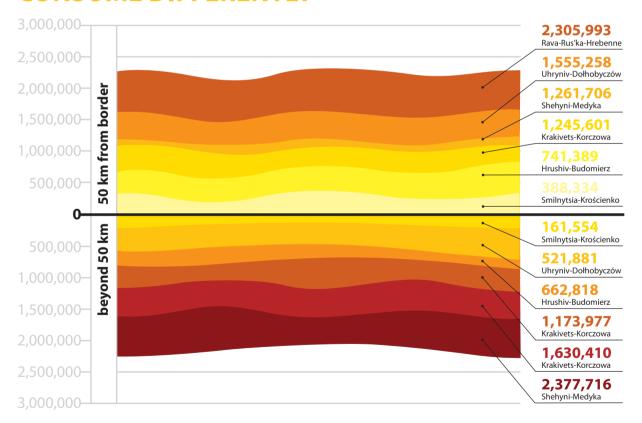
Ukrainians from distant regions often cross the border via big border posts such as Shehyni-Medyka, Krakivets-Korczowa, Rava-Rus'ka-Hrebenne. They can drive here on the international roads. The smaller crossing points like Smilnytsia-Krościenko, Uhryniv-Dołhobyczów, Hrushiv-Budomierz are less crowded with them. They are more popular among local residents living within 50 km from the border along with Rava-Rus'ka-Hrebenne. Even when the roads are in poor condition, it is still

easier for locals to cross the border via the entry-exit point in the same district than moving to the neighbouring one (see Figure 11. Locals: Who crosses and where). As a result, the flow of local residents is more uniformly distributed among border posts when compared with the people living farther away. And this association is from moderate to strong and statistically significant judging from the Cramer's V of. 306. (see Figure 8. Where you're from impacts where you cross)

Figure 8. WHERE YOU'RE FROM IMPACTS WHERE YOU CROSS

The flow of local residents is more uniformly distributed among border posts when compared with the people living farther away.

LOCAL RESIDENTS CONSUME DIFFERENTLY



POLICY IDEA

Better roads to smaller border posts could reveal them to the Ukrainians driving from distant regions

Data source: Kyivstar **Cramer's** V=.306 **Sig.** (2-tailed)=.000

Repairing roads to these smaller border posts in part due to funds of the Polish loan could offload some burden from the busiest crossing points. More people living farther from the border would opt for these posts.

This would reveal these small border posts for the rest of the country. Otherwise, they would continue to cater for only local needs like shuttle trade that is largely frowned upon by officials, activists, and business people residing farther away from the border.

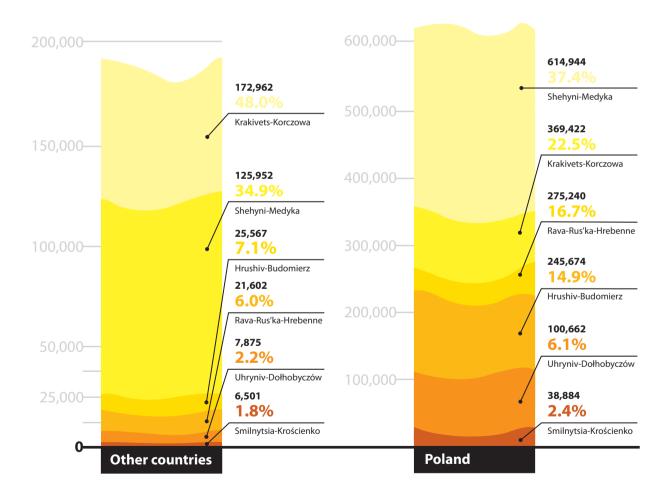
We should also spare a thought for this when building new border posts. Their consumer base would be narrow without an infrastructure leading to them.

Figure 9. WHAT BORDER POST YOU CROSS MAY DEPEND ON WHERE YOU GO IF YOU ARE NOT A LOCAL

Locals usually go to Poland, so the country choice is far from the decisive in their border post options. It can play a bigger role for people from more distant places. They tend to opt for Krakivets and Shehyni when they travel to a country other than Poland.

CROSSINGS

22



Data source: Kyivstar **Cramer's V**=.242 **Sig.** (2-tailed)=.000

DESTINATION COUNTRY MATTERS SOMETIMES

When selecting border posts to cross, the destination country is not the primary driver for locals living within the 50 km from the border. Poland is the main target country for them, as we have seen in the *Locals Are Main Clients* section. The exact choice of Polish city may play a bigger role but we cannot gauge this effect since mobile operator can see only the foreign country, not the city.

The situation is a bit different with Ukrainians from more distant regions (see Figure 9. What border post you cross may depend on where you go if you are not a

local). Poland still prevails in the choice of country to visit though tto a lesser extent. As a result, there is an association of moderate strength between the country of their choice and the border post. When they opt for Poland, which is most often the case, the options they select are more diverse than if they head for Germany or Czechia, for instance. In the latter case, they focus more on Krakivets crossing point because of the international road here and Shehyni crossing point, an important transit point on the trade route.

SHEHYNI IS THE BUSIEST BORDER POST

Shehyni-Medyka is the busiest border post out of the six ones in focus here. It is used by 34 percent of all travellers, both from Ukraine and foreign countries (see Figure 10. Anatomy of border posts). This is the only land point with Poland where you can cross on foot. Moreover, google maps often lead drivers via this border post.

Shehyni is close to Przemyśl, a Polish town, popular among local Ukrainians. They go there to sell alcohol and cigarettes, stock up with foodstuff, and sell it back in Ukraine or just go for shopping there. Moreover, it is an important trade route and key station on the Lviv-Kraków railway route. As a result, it attracts more travellers as a good transit point.

Other big border posts are Krakivets and Rava Rus'ka. Krakivets is right on the E40 international route, that is the longest one joining French Calais with Kazakh city Ridder, next to the border with China. Rava-Rus'ka is convenient for those heading towards Lublin and Warsaw. Therefore, it is popular among locals going for shopping to Lublin or those who take a trip from Lublin airport.

Moreover, international roads are leading to these three crossing points. Other three border posts, in particular Hrushiv, Uhryniv, and Smilnytsia, are small and used largely by locals. Though here **joint control** is practiced. As a result, checks are quicker since Ukrainian and Polish officials do them

in one place and only once.

People struggle to cross the three big crammed points waiting long in queues. In the cases of Shehyni and Krakivets, the issue is a bigger number of those willing to cross the border here than the capacity of these border posts. The capacity of Rava-Rus'ka is not fully exploited, instead (see Figure 10). This might be related to the shortage of staff.

Therefore, reconstruction of these border posts and adequate staff size would ease the situation. Another possible remedy is to offload part of the traffic to the smaller border posts. This could be real when roads leading to them are repaired.

Moreover, better roads between the crossing points would allow Ukrainians to reach any closest crossing point with less queue without a mishap that is a far cry from the current situation when drivers virtually scramble through potholes the roads are riddled with. Repairing **the road from Mostyska to Krakivets** under the Cross-border Cooperation Programme Poland-Belarus-Ukraine 2014 – 2020 would contribute to this cause.⁸

The reconstruction of three crossing points and the repairment of five road sections are in part financed by the Polish loan. However, its realization is repeatedly delayed.

²³

Figure 10. ANATOMY OF BORDER POSTS

Shehyni is the busiest border post out of the six. Other big crossing points are Krakivets and Rava-Rus'ka.



POLICY IDEA

The capacity of Shehyni and Krakivets does not reflect the real pressure on them. The reconstruction is needed.

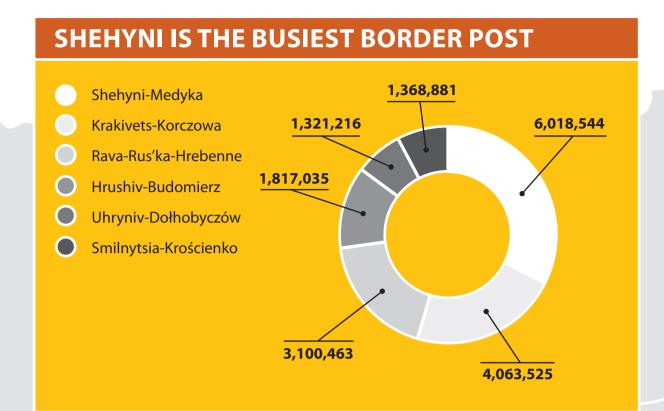
Repairing roads to other border posts could offload some burden from them.

Travellers should have a possibility to easily reach out neighbouring crossing points via good highways when a target border post is crammed.

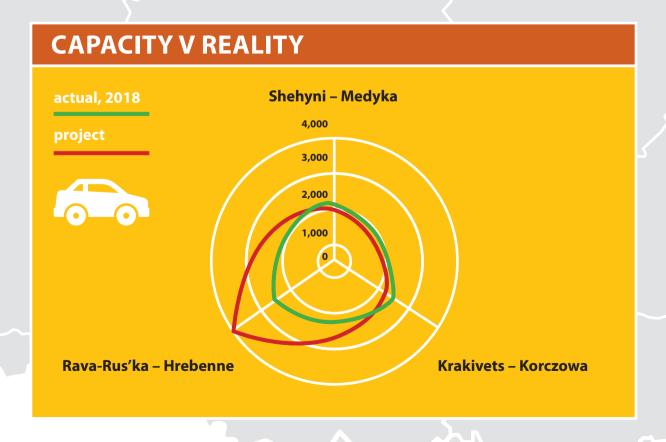
POLICY IDEA

The capacity of Rava-Rus'ka is not exploited in full. More staff is needed.

Data source: State Border Guard Service of Ukraine



SHEHYNI AND KRAKIVETS ARE OVERCROWDED WHILE RAVA-RUS'KA'S CAPACITY IS NOT FULLY EXPLOITED.



Data source: State Border Guard Service of Ukraine

HRUSHIV IS MORE OFTEN USED TO LEAVE IN LIEU OF ENTERING UKRAINE

		Hrushiv-Budomierz				
		Krakivets-Korczowa				
		Rava-Rus'ka-Hrebenne				
		Smilnytsia-Krościenko				
		Uhryniv-Dołhobyczów				
		Shehyni-Medyka				
-200,000	-100,000 (100,000	200,000	300,000	400,000



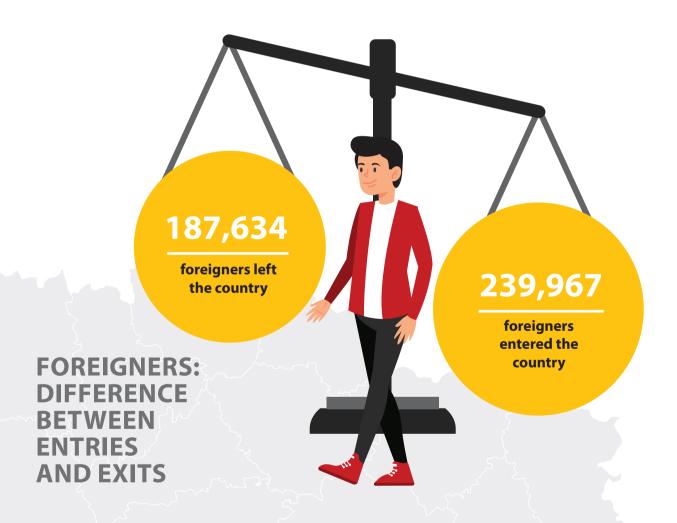
POLICY IDEA

Repairing road to Hrushiv border post would make a trip here easier for those who opt for it in lieu of Krakivets.

Data source: State Border Guard of Ukraine.

FOREIGNERS LIKE KRAKIVETS TO ENTER UKRAINE BUT LESS TO LEAVE IT

		Hrushiv-Budomierz							
		Krakivets-Korczowa							
		Rava-Rus'ka-Hrebenne	Г						
		Smilnytsia-Krościenko							
		Uhryniv-Dołhobyczów	Г						
		Shehyni-Medyka							
-200,000	-100,000	0	0	100,000	200,000	300,000	0 400,000	500,000	600,000



POLICY IDEA

Building more lanes for cars and buses on the Ukrainian side should increase the throughput capacity of Krakivets-Korczowa border post. The project is expected to be funded by the Polish loan.

Data source: State Border Guard of Ukraine.

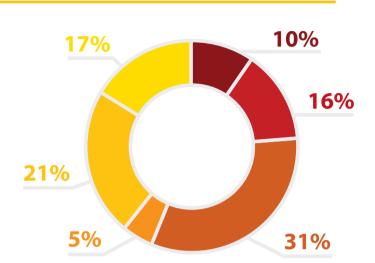
(NO LONGER) CROSSING ON FOOT IN UHRYNIV

Locals cross border in Uhryniv-Dołhobyczów in 21 percent of cases. Since it is on the far north-west of Lviv region, its main consumers are not resident of Sokal district where it is placed but of neighbouring Ivanychi district, Volyn' region. Living close they could visit Poland on foot by January 2019 when the pedestrian lane was terminated.

Rava-Rus'ka is the most popular border post among local resident



- Hrushiv-Budomierz
- Krakivets-Korczowa
- Rava-Rus'ka-Hrebenne
- Smilnytsia-Krościenko
- Uhryniv-Dołhobyczów
- Shehyni-Medyka

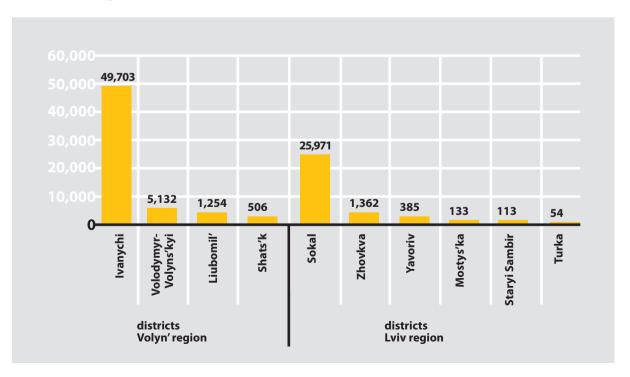


POLICY IDEA

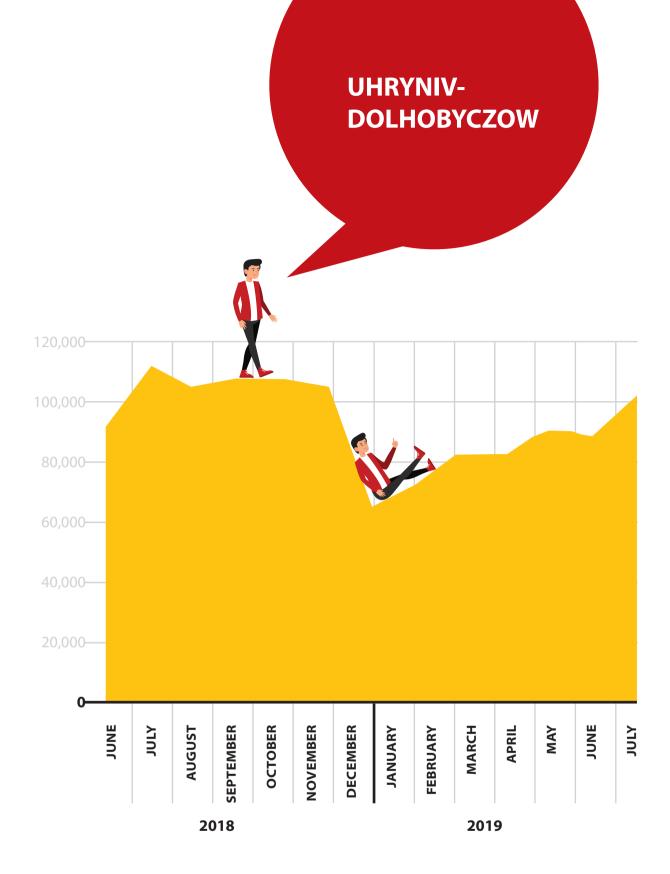
A possibility to cross border on foot in Rava-Rus'ka would match the needs of local residents who often opt for this border post.

Uhryniv-Dołhobyczów						
Rank	District	Region	Crossings			
1	Ivanychi	Volyn'	49,703			
2	Sokal	Lviv	25,971			

Data source: Kyivstar



Data source: Kyivstar



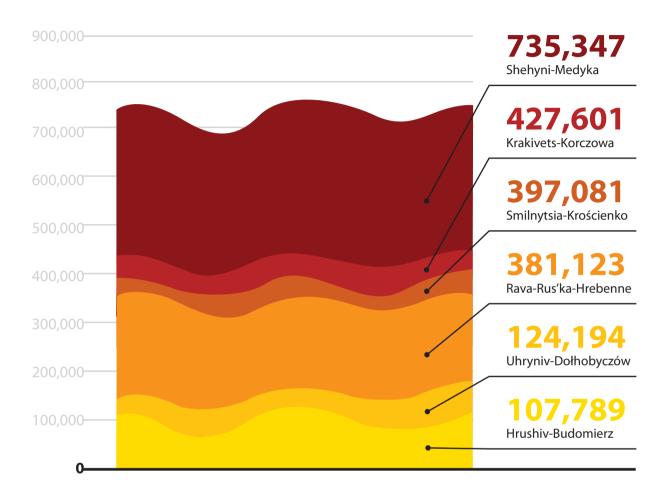
Data source: State Border Guard Service of Ukraine

POLICY IDEA

Pedestrian crossing in Uhryniv would serve locals popping to Poland from both Lviv and Volyn' regions.

SMILNYTSIA-KROŚCIENKO BUSTLES WITH FOREIGNERS

Smilnytsia became more popular among Poles after the nearby road section from Staryi Sambir to Lviv was repaired. More tour buses opt for it instead of overcrowded Shehyni.



Data source: State Border Guard Service of Ukraine

POLICY IDEA

A road section nearby Smilnytsia-Krościenko border post should be repaired under the project funded with the Polish loan.

POLICY IDEA

Better roads to border posts could boost regional tourism luring more Polish citizens and other foreigners.

HRUSHIV IS AN OPTION INSTEAD OF KRAKIVETS DESPITE RUINED ROADS

Much more Ukrainians opt for Hrushiv to leave Ukraine while much less come back via the this border post. The reason is that the road leading to it is frayed and ruined (see Figure 10. Anatomy of border posts).

Nevertheless, people go here instead of Krakivets that is more crowded.^{9,10} Fixing this road would make their trips cosier and lift the burden from Krakivets. The Polish loan covers the expenses.

FOREIGNERS LIKE KRAKIVETS FOR ENTRY BUT LESS FOR EXIT

By and large, the inflow and outflow of foreigners – largely Polish citizens - is balanced at all border posts but Krakivets. The number of people who came into Ukraine and left it is more or less similar in Uhryniv-Dołhobyczów, Rava-Rus'ka-Hrebenne, Hrushiv-Budomierz, Shehyni-Medyka, and Smilnytsia-Krościenko. Meanwhile, about 50,000 of those who got to Krakivets-Korczowa border post opted for other crossing points when leaving (see Figure 10. Anatomy of border posts). The Polish A4 autostrada, a part of the E40 European route, crosses the entire country from

German to Ukrainian border. Polish roads to other border posts, though largely in good condition, lack parking and toilets.¹¹ Therefore, Poles opt for this border post more willingly when entering Ukraine. The potential of this border post is nonetheless underused because of poor infrastructure on the Ukrainian side of the border.

The IDS-Bud, a Polish company, won a bid for building five more lanes for cars and two more lanes for buses and reconstructing present facilities for trucks.¹² The project is funded by the Polish loan. It should break the logjam at the Ukrainian side.



Source: GoogleMaps

[&]quot;Road Repair to Hrushiv Will Start This Year," Vsetut, 21.03.19, http://vsetutpl.com/remont-dorogy-na-grushiv-rozpochnut-vzhe-tsogo-roku

As Krakivets is often crowded only on direction to Poland, people still prefer it to bad roads of Hrushiv when coming back.

Marta Jaroszewicz and Krzysztof Mrozek, "The Border of Modern Neighborhood. How to Build It: Qualitative Research on the Polish-Ukrainian Border," draft to be published soon, as of December 2019.

[&]quot;Construction Of Areas For Passenger Vehicles And Buses In The Checkpoint For Road Traffic "Krakivets" And Reconstruction Of The Infrastructure Of The Ukrainian Part Of The Existing Checkpoint "Krakivets" On The Ukrainian-polish Border, "Open Tenders Online, https://www.opentenders.online/tenders/1994597

(NO LONGER) CROSSING ON FOOT IN UHRYNIV

Uhryniv is often a choice of local residents. They cross here in 21 percent of cases. People could cross it on foot for about three and a half years until it was closed in 2019. The official reasons are poor infrastructure on the Ukrainian side, in particular no lighting, footways, rubbish bins, and parking. People had to walk beside highway endangering their life and health. As a result, we see a steep drop of crossings via this border post in January 2019 (see Figure 10. Anatomy of border posts).

Locals tell that they crossed often to visit relatives or worked nearby. They downgrade the possibility of the shuttle trade. "While Poles buy vodka and cigarettes from Ukrainians right at the Shehyni crossing point, the situation is different in Uhryniv. The closest Polish shop is 4 kilometres away," claims a civil society activist from Sokal.

It is easier and cheaper for local residents to hop the border on foot. There is no need to fill up the tank and pay for car insurance or for a bus ticket.

Uhryniv-Dołhobyczów crossing point is in Sokal district. It is the farthest northern border post of Lviv region. While local resident from Sokal district are quite active consumers, people from neighbouring Ivanychi district of Volyn' region leapfrog them in the number of crossings. They crossed here twice more often, almost 50,000 times (see Figure 10). The geography of this border post is wider than of the other ones. "People from Novovolynsk of Ivanychi district rent house near Uhryniv. They cross every day to work at Polish sawmill nearby. It was easier to get there with the pedestrian lane," provides an example a local community leader.

Other popular crossing points among locals are the three big ones. Shehyni border post is the only one that allows walking through it. Rava-Rus'ka can become the next one with pedestrian lane. It is supposed to be financed by the Polish loan.



Project picture of the future pedestrian lane in Rava-Rus'ka-Hrebenne border crossing point Courtesy of Max Nefyodov, facebook post, http://bit.do/fiVVE

SMILNYTSIA-KROŚCIENKO BUSTLES WITH FOREIGNERS

Tour buses from Przemyśl more often opt for border post in Smilnytsia instead of Shehyni, though the latter is much closer. It is much smaller but less busy. Buses cross the border here much faster.

Some road sections from this border post to Lviv are still in poor condition. It should be repaired thanks to the Polish loan. Meanwhile, a long section from Staryi Sambir to Lviv is improved due to customs experiment when 50 percent of customs revenues exceeding targets went on road repairs. This is a reason for this surge of interest to this crossing point among foreigners (see Figure 10. Anatomy of border posts).

ROADS REPAIRED DUE TO CUSTOMS EXPERIMENT

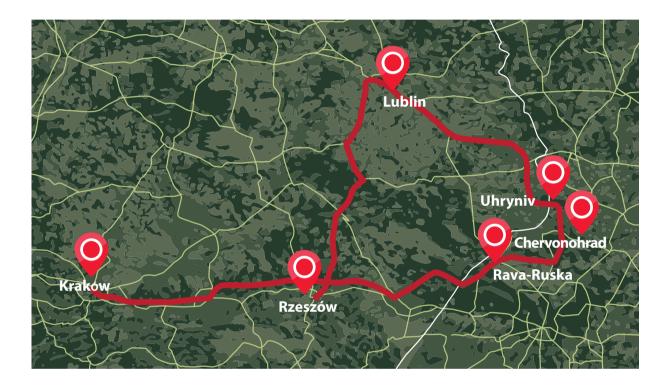


Source: Lviv Regional State Administration, "Improving Borderland Road Infrastructure in Lviv Region," 20.03.2019, http://bit.do/fiVCA

LOCAL RESIDENTS: WHO CROSSES AND WHERE AND DO THEY NEED NEW BORDER POSTS?

Local residents usually opt for the closest border posts in the same district where they live (see Figure 11. Locals: Who crosses and where). Some districts like Yavoriv has two crossing points which make sense since local residents are the most active consumers of border infrastructure. People

from other districts may want to head for neighboring crossing points. For instance, Sokal district's inhabitants choose neighbouring Rava-Rus'ka crossing point instead of Uhryniv when they head for Rzeszów or Kraków. Uhryniv is the option when Lublin is their final destination.



But the road from Chervonohrad to Rava-Rus'ka crossing point is fraying. It is important not only for travellers but for local development too. "This road is capable of becoming an impetus for the development of adjacent villages like Belz or Uhniv," the Sokal official grumbles. Its repair is supposed to be financed by the Polish loan. But its realization is repeatedly delayed.

Staryi Sambir district's residents bear the brunt of bad roads to Shehyni since they often cross the border here in lieu of Smilnytsia border post that is in the same district. Firstly, the road leading to Smilnytsia is creaking. The Polish loan should cover expenses for its repair if implemented. Moreover, you need to drive through twisty mountain roads on the Polish side. On the one hand, you can enjoy picturesque landscapes. On the other hand, it takes more time and effort.

Shehyni is a good alternative in this regard. Meanwhile, it is the busiest road border post in Lviv region. A new small crossing point similar to Hrushiv that is planned in Nyzhankovychi-Malhowice could meet the needs of the local resident and handle part of the load on Shehyni-Medyka crossing point, instead.

There are also projects of creating new border posts in Lopushanka-Michniowiec and Boberka-Smolnik. Both would be in Turka district. However, its residents seldom cross the border. People from this district are less than 1 percent of all local consumers. Therefore, a tiny border post here might cater for local needs, if any at all.

POLISH MONEY

Poland allocated loan amounted to up to EUR 100 m for Ukrainian borderland in 2015.14 It should fund projects in Lviv region, inter alia, to

modernise three crossing points:

- reconstruct Shehyni-Medyka border post,
- build pedestrian crossing at Rava-Ruska-Hrebenne border post,
- build separate lanes for cars and buses at Krakivets-Korczowa border post,

repair roads

leading to Smilnytsia-Krościenko, Hrushiv-Budomierz, Rava-Rus'ka-Hrebenne border posts and a potential future border post in Nyzhankovychi-Malhowice (see Figure 12. Polish money can make difference).

It should have financed also renovation of seven divisions of Ukrainian border guards. But as of October 2019 no bidder was interested in applying a tender offer.

Delivering on these projects would pitch in to meet the pressing needs of the travellers. It would help to deal with the given bottlenecks unveiled by the data in the previous sections.

Firstly, it would amend throughput capacity of the biggest and busiest border posts

like Shehyni-Medyka and Krakivets-Korczowa to meet the actual flow of people.

Repairing road sections leading to Smilnytsia-Krościenko, Hrushiv-Budomierz, and Rava-Rus'ka-Hrebenne border posts would make trips of local Ukrainian residents heading for this crossing points easier and cosier. What's more, it could offload burden from the most crammed crossing points.

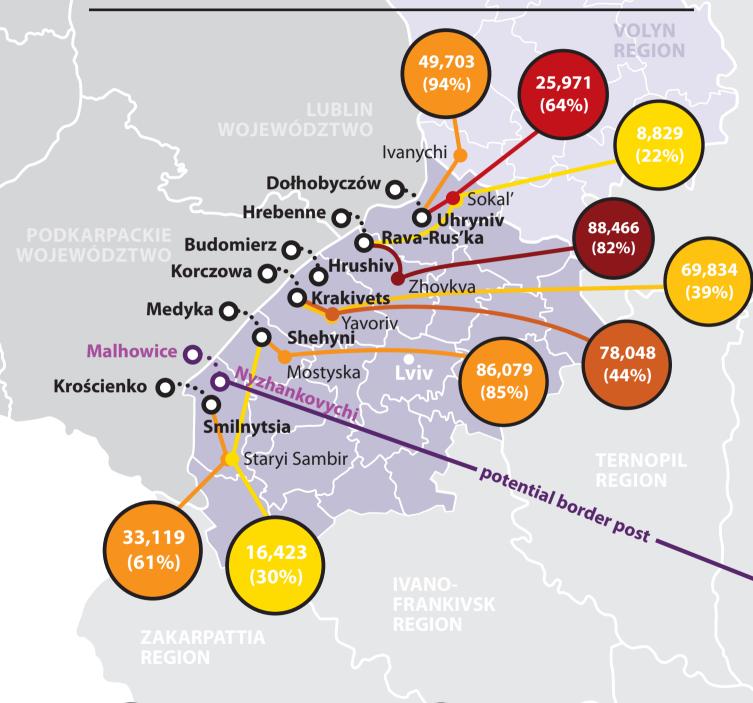
Better infrastructure could boost tourism in the region as the example with Smilnytsia-Krościenko border post shows (see Smilnytsia-Krościenko Bustles With Foreigners section). Polish citizens make tours here. More possibilities to cross on foot and with bike with pedestrian lane in Rava-Rus'ka could further add to the tourism potential. It would also serve locals who often opt for this border post.

More so, some roads like Chervonohrad-Rava-Rus'ka could connect villages along them to the rest of the country providing an impetus to local development.

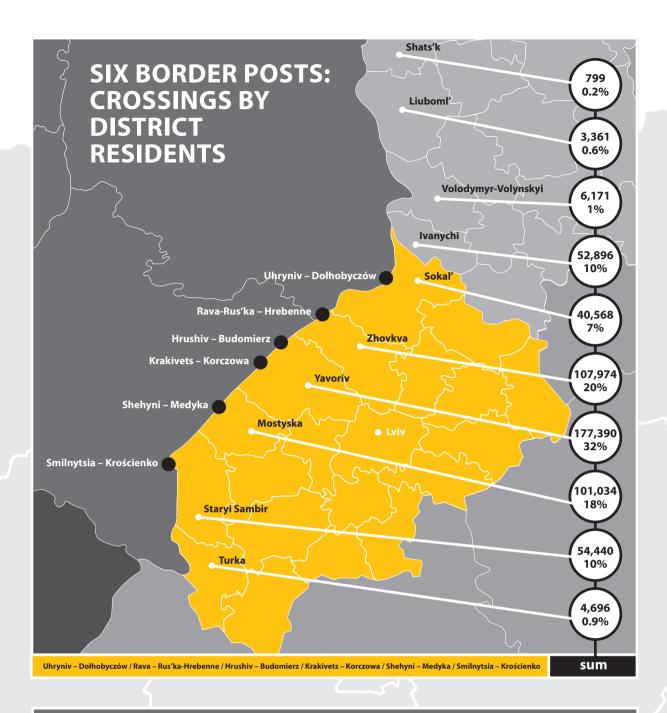
But the launch of the projects to be funded by the Polish loan is repeatedly delayed. At the moment, the major issue is the price change since 2017 and 2018 when the related contracts with Polish private companies were closed. 15

Figure 11. LOCALS: WHO CROSSES AND WHERE

Locals mainly opt for the closest border posts. Though residents of Sokal and Staryi Sambir often head for neighbouring crossing points. Besides, people barely hop the border in some districts like Turka.







POLICY IDEA

The low frequency of crossing the border by Turka district residents when compared to other neighbouring districts may signal that tiny border posts in Lopushanka-Michniowiec and Boberka-Smolnik in lieu of the full-fledged ones could cater for local needs, if any.

POLICY IDEA

A new small border post in Nyzhankovychi-Malhowice would serve people from Staryi Sambir district who opt for Shehyni instead of Smilnytsia crossing point that is in the same district. It could also offload some burden from Shehyni border post that is the most crammed one in Lviv region. A good road leading to the potential crossing point is important to make this happen.

POLICY IDEA

Improving road from Chervonohrad to Rava-Rus'ka as well as the road to Smilnytsia and from Smilnytsia to Shehyni would make trips of about 14 percent of locals easier and more comfortable. It may also become an impetus for local development.

Figure 12. **POLISH MONEY CAN MAKE DIFFERENCE**

Polish loan should fund projects of reconstructing three border posts and five road sections leading to border posts. But their launch is repeatedly delayed.

ROADS

T-14-04 Chervonohrad -Rava-Rus'ka km 3+137-56+307 **Contractor: DROG-BUD**

Price: EUR 21.5 m Price: EUR 19.5 m

2

ROADS

0142001 Yavoriv -Hrushiv km 0+000- km 19+500 Contractor: DROG-BUD Price: EUR 6.9 m

3 **ROADS**

T-14-03 Hrushiv -Nemyriv km 3+000 - km 12+691 **Contractor: UNIBEP** Price: EUR 3.5 m

ROADS

T-14-01 **Smilnytsia** border post -Staryi Sambir km 14+950- km 17-950 Contractor: DROG-BUD Price: EUR 2.04 m

ROADS

T-14-18 Nyzhankovychi -Sambir -Drohobych - Stryi km 0+000-km 46+435 Contractor: DROG-BUD Price: EUR 19.5 m

BORDER POSTS

Rava-Rus'ka -

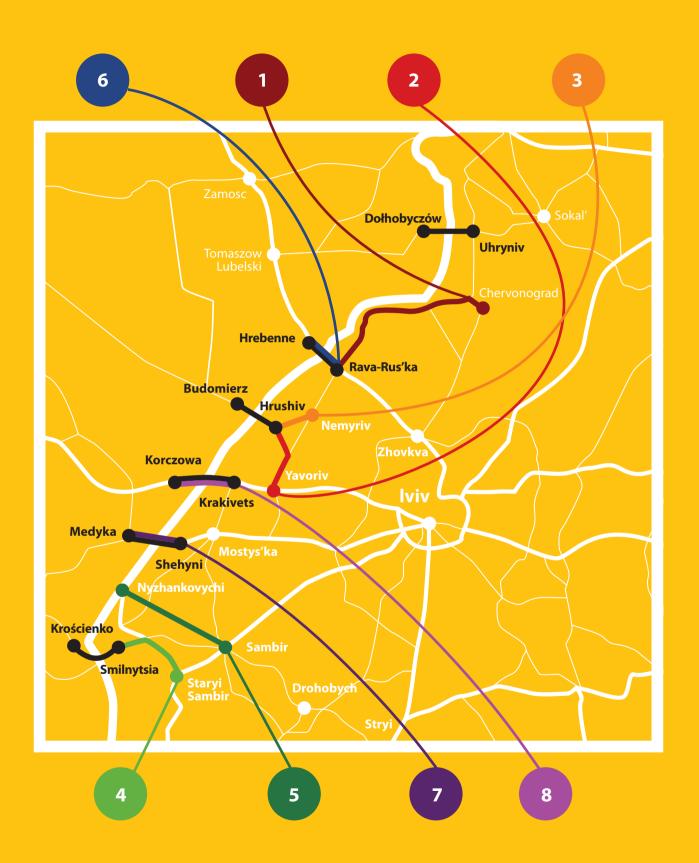
Hrebenne construction of pedestrian crossing **Contractor:** T-4B Price: EUR 1.585 m

BORDER POSTS

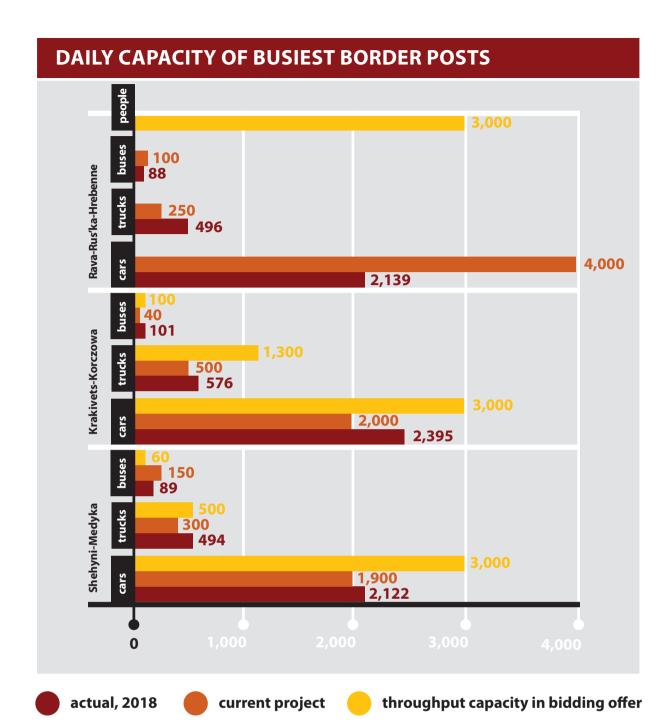
Shehyni -Medyka reconstruction **Contractor: UNIBEP Price:** EUR 15.72 m

BORDER POSTS

Krakivets - Korczowa construction of areas for cars and buses reconstruction of existing infrastructure Contractor: IDS-Bud **Price:** EUR 6.945 m



Source: Response of Lviv Region Public Administration to public request of Europe without Barriers think tank, no. 3BF-B/IX 1413/0/19, 3.06.2019.



Sources: "Reconstruction of the 'Shehyni' International Border Checkpoint for Road Traffic on the Ukrainian-Polish Border," Prozorro Public Procurement, https://prozorro.gov.ua/tender/UA-2017-07-07-000596-a; "Construction Of Areas For Passenger Vehicles And Buses In The Checkpoint For Road Traffic "Krakivets" And Reconstruction Of The Infrastructure Of The Ukrainian Part Of The Existing Checkpoint "Krakivets" On The Ukrainian-polish Border," OpenTenders.Online, https://www.opentenders.online/tenders/1994597; "Construction Of The Pedestrian Crossing In The International Border Checkpoint «Rava-Ruska» On The Ukrainian-polish Border," Prozorro Public Procurement, https://prozorro.gov.ua/tender/UA-2018-01-24-000788-b; State Fiscal Service of Ukraine's response to public request of Europe without Barriers think tank, no. 793/3ПI/99-99-18-01-02-15, 22.04.2019.

POLICY IDEA

Delivering on the projects to be funded by the Polish loan would pitch in to making some policy ideas in previous sections come true.

PART 4. KEY POINTS AND POLICY IDEAS

The border between Ukraine and Poland is the **busiest** one for both countries. Every nine out of ten travellers are Ukrainian citizens. And more than half of them live right next to it. They have their own needs to cater for. They consume it differently than other Ukrainian citizens and have different expectations.

We focus here on border posts placed in **Lviv region** since it hosts six out of eight road crossing points. **Local residents** hop the border here mainly for work, shopping, or small-scale trade. They are far from being rich. And consider border as an **income source.**

People from distant regions spurn this lifestyle. Yes, border has become the way of living for locals. So, Ukraine limited the number of crossings and the value of goods they can bring back from Poland since 2018.

Many locals are ready to change this lifestyle and they know how. Firstly, **infrastructure projects** like repairing roads barely ridden on by non-local people can open isolated villages and town to the rest of the country relieving their plight. More shops, filling stations, parking would not only make journeys more pleasant for travellers but would bring more revenues to local budgets.

The borderland has an immense **tour-ism** potential. After **Lviv-Staryi Sambir road** has been repaired, more tour buses cross at Smilnytsia-Krościenko border post avoiding overcrowded Shehyni.

The projects of kayak trails, tours through ancient buildings, natural beauties, and sacred places could attract more Polish tourists. They are the main foreign visitors and about third part of them head for the borderland.

We have only one border post where you can cross on foot or with bike. It is in Shehyni-Medyka. Meanwhile, more **pedestrian crossings** could lure more Polish visitors. Biking tours are a new voque in Poland.

Pedestrian crossings are even more important for local residents since they live in short distances from the border posts. But they should not become localised small-scale trade points, a development largely

perceived as negative.

At the moment, Polish loan will finance building pedestrian crossing at Rava-Rus'ka-Hrebenne border post. Uhryniv crossing point has a big potential too. People could walk through the border by 2019. Pedestrian crossing was closed because Ukraine had not built crucial infrastructure. People were virtually walking across roadway without street lights that was dangerous. The border post is in Sokal' district but its geography is much wider. People from neighbouring Ivanychi district of Volyn' region visited it far more often than Sokal district's residents. The risk of turning into trading point is downgraded by the fact that the closest shop on the Polish side is 4 km away.

Living close to our six border posts locals usually head for the closest one to enter Poland. As a result, they wend their way to the three small crossing points in Uhryniv-Dołhobyczów, Hrushiv-Budomierz, and Smilnytsia-Krościenko more often than travellers from more distant parts of Ukraine. Better access to these small entry-exit points could offload the bur**den** from the three big and overcrowded places in Shehyni-Medyka, Krakivets-Korczowa, and Rava-Rus'ka-Hrebenne. Pothole-free roads is key for drivers to make it to these small crossing points. It is important that you can reach the border post itself. But also it should be easy to drive from a crammed crossing point in case you are stuck there to a neighbouring one that may happen to be free. Many people opt for **Hrushiv** in lieu of Krakivets even now despite the roads. Though such a journey is all but a pleasure.

It is at the three small crossing points where the **joint control** is applied. It makes the checks faster since Ukrainian and Polish officials do them in one placeand only once.

At the same time, the potential of big border posts is not fully used. Foreigners - largely Polish citizens – who tear along the highway to **Krakivets-Korczowa** crossing point entering Ukraine reluctantly come back via this border post. *More lanes* are needed for cars and buses on the Ukrainian side.

Rava-Rus'ka-Hrebenne crossing point,

in turn, suffers from **understaffing**. The officers grapple with the flows but they cannot handle them. A **good road** to this border post **from Chervonohrad** would make trip easier for about 20 percent of local residents from Sokal district often heading for Rzeszów or Kraków.

Shehyni-Medyka is the oldest border post and the busiest out of all six ones. So it is thirst for a full reconstruction.

There are ideas of new border posts like Nyzhankovychi-Malhowice, Lopushanka-Michniowiec, and Boberka-Smolnik. They are discussed in media and supported by Lviv regional authorities. 16 The new

crossing points could take some flows of people on themselves. **Nyzhanjovy-chi-Malhowice** could cater for the needs of people who now cross at Shehyni crossing point, the busiest one, for instance.

Meanwhile, **Lopushanka-Michniowiec** and **Boberka-Smolnik** in Turkiv district would serve less than one percent of people living in borderland. A tiny border post might be enough here, if any at all.

Some of these bottlenecks could be resolved with the **Polish loan**. It should help to modernise three big border posts and repair roads to some smaller ones. But it is repeatedly delayed.

"Polish citizens laugh, they joyfully cross the border while we are kept waiting," says Mostyska-based museum director. People are kept waiting hours at the border, and they see it as a **discrimination**. Not in a legal sense but more as a perception. So, delivering on needs of travellers and resolving major bottlenecks would not just make their journey more comfortable and faster and streamline the flows of people but would have an impact on the perception of discrimination too.



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