



# SUSTAINABLE TRANSPORT FOR BORDER AREAS IN THE EUROPEAN UNION

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**Abstract.** This paper seeks to offer a critical discussion of conceptual ideas of sustainability that link transport with borderlands. In recent decades, European border regions have been subject to a steady process of transformation. New sustainable ideas are among the most important paradigms where the future development of borderlands is concerned, with transport considered key. In this paper, the author seeks to demonstrate the way in which sustainability has been characterised by environmental, economic and social aspects that each have their own special relevance to borderland development of transport.

**Keywords:** borderland, European Union, sustainability, transport.

## Introduction

International borders enclose the territory of a state and control flows of people and goods. Borders are among the more important manifestations of political, administrative and even socio-economic divisions, but they are also important parts of a state, stimulating regional and local development mainly (but not solely) on the basis of tourism, trade and transit. For cross-border regions to function properly, appropriate public transport is necessary, with this also including cross-border transport, as in the analysed case. Integrated knowledge of the roles of, and interactions between, transport and borderlands is essential for socio-economic development at least. Transport is also seen by enterprises as playing an important role, along with an effective system of policymaking and planning. The direct consequences of COVID-19, as well as the far wider associated crisis also point to the importance of transport in the sustainable development of border regions. Equally, the pandemic offered an opportunity for development to be 're-imagined' in terms of both its sustainability, and the social and ecological justice it remains capable of offering (Higgins-Desbiolles, 2020; Więckowski, 2020, 2021). 'In fact, every crisis in history has also represented an opportunity, at least a chance for reflection' (Więckowski, 2020, p. 485).

According to Medeiros (2019), the presence of cross-border transport can be pivotal to reducing the barrier-effect on citizen's mobility, and to increasing the level of territorial integration of the European Union (EU). EU Regional Policy (which is also Cohesion Policy) is targeted at all regions and cities in the EU, seeking in particular to support economic growth, sustainable development, job creation, business competitiveness, economic growth, sustainable development, and improved quality of life for citizens.

As the name suggests, the main objective of Cohesion Policy has been to ensure greater cohesion in both the economic and social dimensions. The Green Paper on Territorial Cohesion (EC, 2008) points to issues of concentration (overcoming differences in density), the connecting of territory (overcoming distance) and cooperation (overcoming division), while also referring to regions with specific geographical features. The objective of European Territorial Cooperation is to promote a harmonious economic, social and territorial development of the Union as a whole (Michniak & Więckowski, 2021).

One of the main goals of EU regional policy is the sustainable development of EU regions in general and borderland areas in particular. In a borderland context, a serious commitment to sustainability denotes strong incorporation of individual values and value systems, as well as a change in values in border research and development in the direction of stability. In turn, the development of many borderland areas has been entirely dependent on good transport, given twin dependence on a high degree of attractiveness and effective promotion on the one hand, but also good accessibility on the other.

All of this denotes a need to discuss and engage in the critical evaluation of transport infrastructure, accessibility and other related issues that link up with the growth of border areas. In addition, it becomes more and more necessary to consider where sustainability fits into the picture.

Europe's border regions have been under permanent transformation in recent decades. New sustainable ideas are emerging as some of the most important paradigms where the future development of borderlands is concerned. A current manifestation of the new paradigm as embedded in European conditions is the Territorial Agenda 2030 (TA 2030) adopted at the end of 2020 (TA 2030, 2020; Jakubowski & Miszczuk, 2021). 'It distinguishes six development policy priorities for areas with different development potentials and challenges. Admittedly, only one of these priorities is directly addressed to border regions. However, the remaining priorities can also be successfully used in actions for the development of border regions' (Jakubowski & Miszczuk, 2021). Forming the last important point linking with the ideas presented in this reflection paper are the following sentences highlighted by Kolosov and Więckowski (2018, p. 7):

*The European integration became a major factor in the change of the functions of their internal and external border functions, profoundly modifying their symbolic meaning and socio-political significance. The opening of internal boundaries to free circulation of people, goods, capital and information were crucial to the project of the European Union as a community transcending national borders, historical conflicts and contradictions, and built on the principles of common values and identity, and on jointly adopted norms and rules.*

The main ideas behind the work presented in this paper are of the interrelated nature of transport and borderlands where sustainable development is concerned. In general, this paper seeks critical discussion of conceptual ideas of sustainability that link matters of transport with those concerning borderlands.

## Contemporary changes along European borders

Traditionally borders have been understood as barriers, and indeed they have long played this role in regard to people's movements, but also where spatial development is concerned. Borders have at times been closed, with levels of enforcement at times strong enough restrict or prohibit all activity in or movement into borderland zones, with borderlands thus representing areas of isolation

and taking on the familiar, if seemingly *passé* status of ‘no-man’s land’. However, in recent times it has been possible to note a return to a defensive role for borders, especially in the light of new waves of migration arising along the external frontier of the EU (as at Hungary’s eastern borders in 2015 and Poland’s border with Belarus in 2021), as well as a certain temporary resort to the extreme measure of border closure, in line with COVID-19 restrictions (Rosik, Komornicki, Goliszek & Duma, 2020). 2020 brought a quite abrupt and sudden suspension of the hitherto-enthusiastic, pro-development and ever-closer cross-border ties and cooperation in Europe.

The appearance of the COVID-19 pandemic and the decisions to introduce lockdowns, and border closures, represented the first events on such a scale to be noted in the history of the EU. Once pandemic status had been declared, most countries’ governments seemed in doubt that closures of their own state borders represented the most effective protection against the spread of COVID-19. That went hand in hand with the restoration of border controls, the sealing of borders, or even their outright closure (Rosik et al., 2020; Więckowski, 2020). The lack of coordination of such activities, and the decisive return to unilateral decision-making were a source of significant chaos at state borders, if also of course beyond them.

All of this left people aware, or rather with a strong reminder, that the direction of activities in borderlands is multilateral, with it remaining entirely possible for processes to head in the directions of both the opening of borders and deepening integration, or else the closing of borders and reduction of cross-border interactions. ‘In response to the pandemic, many countries and regions also imposed quarantines, entry bans, or other restrictions for citizens of (or recent travellers to) the areas affected most severely’ (Więckowski, 2020, p. 480).

Earlier, other events had also given rise to border closures, with walls built on the borders of European countries (Scott, 2018). There are also border conflicts arising out of methods of exploiting resources in border areas, as well as different perceptions of planning and ways of using areas adjacent to borders. At the same time, European institutions worked to strengthen regimes at the EU’s external frontiers (Rosik et al., 2021), given the way these were considered a kind of fence against illegal flows, primarily of migrants (Coles, Hall & Duval, 2005), but also in regard to other mobility patterns (Więckowski, 2008; Kolosov & Więckowski, 2018). ‘However, they were concerned by the risks provoked by excessive differences in well-being on the external boundaries – political and social instability, and potential ‘soft’ threats’ (Kolosov & Więckowski, 2018, p. 8).

Many changes have knock-on implications for transformations of function in regard to borderlands. As a process whereby a border opens up is underway and integration is ensuing, it is still possible that change as a whole will falter or even stall, should issues arise locally, nationally, or globally. For these reasons, geopolitical considerations will always reign supreme over other borderland phenomena, determining directions of development and possibilities for borderlands to function (Więckowski, 2019).

## Sustainable transport for sustainable borderlands

As was mentioned here at the outset, borderlands are areas in which tourism, trade and transit stimulate regional and local development. But in all of these elements, one of the most important borderland roles has been played by transport (Komornicki, 2005; Michniak & Więckowski, 2021). But instead of actively sinking the idea of sustainability, we might reflect further on a conceptual side relating to both borders and transport, before going on to reflect on certain ideas arising out of 2020’s pandemic-induced changes.

It ought to be the case that ever-greater significance is attached to social justice (Jaros, 2017), as well as spatial justice (Ciechański, 2020; Ciechański, Więckowski & Michniak, 2021). Development of transport infrastructure and adequate accessibility of areas represent prerequisites for the development of most sectors of the economy. The idea of sustainability plays a great role in these processes (Greene & Wegener, 1997).

Additionally, the world after the COVID-19 pandemic should be much more sustainable; and certain new trends in borderlands should entail a change of behaviour (Więckowski, 2021). Improving transport in cross-border development requires the continuous development and expansion of infrastructure and also development of a cross-border transport system (as regards both infrastructure and organisation). In general, sustainability has been characterised by aspects that are environmental, economic and social, with it being important for each borderland region to find a balance between the three dimensions of this kind (Michniak & Więckowski, 2021).

Sustainability is often a 'versus' set against actual challenges (Zimmermann, 2018). But irrespective of the specific definition of sustainable transport, frequent reference is made to a 'triple bottom line' relating to the above economic, environmental, and social aspects. But even with this agreement as regards the triple bottom line, virtually every individual and group addressing transport-system sustainability does so by developing a distinct set of variables considered indicative of sustainability (Richardson, 2005). In this way, an influence on modes of transport use may be exerted, and indeed an influence on destinations travelled to (the choice depending on general and local transport sustainability – destinations reachable by hybrid/electric public transport, etc.). This will fit with 'responsible' behaviour on their part.

Sustainable transport is defined in relation to emissions and use of energy (Himanen, Lee-Gosselin & Perrels, 2005). This marked a first time for the (bold and much-needed) appearance of the concept of 'sustainable mobility' as part of the international agenda (EC, 1992). In the literature on transport and sustainable development, the terms 'sustainable transport' (also sustainable transportation and sustainable transport systems, etc.) and 'sustainable mobility' are used synonymously (Holden, 2007).

Transport can often be the single most important determinant of viability in borderlands, especially where remote destinations are concerned. The function of transport can be seen clearly enough (with charter planes, coaches and cruise ships) or be anonymous (rented cars, private cars, motorbikes and bicycles) (Hall, 1999; Holden, Gilpin & Banister, 2019). Individual types of transport are specific to certain types of development in a borderland (as in the cases of charter planes, coaches, cruise ships, and 'historic' transport, e.g. steam railways or old buses); or else partially so (regular/scheduled airplanes, long-distance and local trains, ferries, express buses, taxis, rented cars, motorbikes and bicycles), occasionally so (in the case of private cars, local public transport at seasonal tourist destinations), or exceptionally (private and public transport for commuting, for example) (Taylor, 2019), see Table 1.

However, transport systems are mostly still unsustainable in many borderlands (see e.g. Kołodziejczyk, 2020; Michniak & Więckowski, 2021). Furthermore, congestion is an external effect within the transport system. However, at the national level, such an impact may be greater when infrastructure in particular, but also means of transport (and consequently accessibility issues), become the subject of wise and logical planning. For example, Michniak and Więckowski (2021) sought to address ideas of sustainable transport in the relatively sustainable region of the Polish-Slovak borderland (considered one of the most protected areas on either side of the border; see Więckowski, 2018).

Giving a second example of the Polish-Czech borderland, Kołodziejczyk (2020) claims that public transport does not function very well and makes sustainability of the region difficult. In that respect, Kołodziejczyk underlines the way in which 'the coordination of services organised by the two countries is poor in terms of routes and timetables', and 'locations where it is possible to cross the border using means of public transport are located irregularly and do not always correspond with the tourist attractiveness of a region' (2020, p. 261). He concludes that for people 'who do not have a vehicle, or for those who consciously refrain from using the car on holidays, the border is still a barrier' (2020, p. 261).

When it comes to the external frontier of the EU, transport proves to be underdeveloped in line with both natural and political factors (Wendt et al., 2021). Addressing the situation in the Romanian, Hungarian and Ukrainian borderland area, Wendt et al. concluded that transport 'remains a serious problem that requires the implementation of sustainable solutions in the future, despite many important steps that have been taken over the last 20 years' (2021, p. 22).

In turn, in the case of the Russian-Finnish borderland (as exemplified by the Northern Ladoga region), active development of transport infrastructure has only been taking place in the most recent years. As Stepanova (2019) concluded, enhancement of infrastructure relating to transport (including by road and water) is still needed if that borderland is to develop.

Of particular importance in sustainable transport is public transport, which is generally better-developed in urbanised areas (Ciechański, 2020; Ciechański et al., 2021), but much less so in remote rural parts, for example near National Parks and in the mountains (Sidaway, 1982; Prideaux, 2000; Page, 2009). A lack of good public transport and poor accessibility are also confirmed by another observation that private cars everywhere play a key role (Ciechański et al., 2021; Michniak & Więckowski, 2021).

**Table 1.** Main forms of transport at cross-border destinations\*

Theme	Air	Rail	Road; public or private	Water	Other
Access to the border area	Flights – charters, LowCost, regular lines	Intercity rail, 'classic' train	Car, coach, bus	Ferry, ocean cruise	Bicycle
Transport at a borderland	Small aircraft	Local or regional train, tourist train	Local car/taxi, urban and other bus, tram	Local ferry, river cruise	Walking, cycling, special activities: ballooning, rafting

\* It should be recalled that many journeys use different modes of transport in the course of a single trip. Source: author's proposal drawing on many sources.

Sustainability is an overarching concept, which makes benchmarking of sustainable transport difficult, since it cannot be handled in an entirely detached way. This stands in contrast with policy-makers' need for compound, easy-to-handle indicators (Himanen et al., 2005).

Because the concept of sustainability links three dimensions, these should be emphasised here in the context of benefit, given that each pillar can generate new important circumstances for transport development in borderlands. The following sections thus characterise each of the three elements briefly.

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## Environmental benefit

Many borders were drawn in lightly-populated areas which long continued in underdeveloped buffer roles (Jakubowski & Mischczuk, 2021), or else – or in addition – functioned as transition zones between neighbouring countries. The long-term effect of this was mainly beneficial as regards the protection of unique natural landscapes (Więckowski, 2018). Indeed, that situation has often moved on to a point where wilderness in the areas in question enjoys guaranteed legal protection on both sides of a border (Ramutsindela, 2014; Więckowski, 2018). This process began in the inter-War period and culminated during the Cold War. The political borders of Central and Eastern Europe cross fascinating and relatively unchanged areas important for nature and wildlife, and many National Parks draw benefit from locations near state borders. In this part of Europe borderlands provide a good example of territory with a great number and area of protected areas in which ecological interests dominate (Guyot, 2011; Kolosov & Więckowski, 2018).

Public transport is crucial to the development of areas attractive from the natural point of view, as well as those of tourist relevance (Dickinson & Robbins, 2008). In these kinds of areas, public transport would tend to be preferred over individual transport. An important idea in the development of these kinds of borderland is to enable people to limit their use of individual means of transport, in and around protected areas in particular (Kołodziejczyk, 2020). Many publications also refer to a need for railway transport to be developed (Medeiros, 2019; Michniak & Więckowski, 2021). But even as the solutions proposed are justified, their implementation is not easy. Even were there to be significant enhancement of the mass-transport system, with economic stimuli to environment-friendly transport deployed, an increase in the share of people using public transport will still be difficult to achieve in the near future.

Meanwhile, the effect of the increased use of private transport has been to cause traffic jams and ensure the overloading of car parks – these being impacts that many destinations were quite unprepared for. Users (tourists and local populations) potentially compete for transport in terms of access to public carriers, road space, parking, bicycle and pedestrian paths (Więckowski, 2021). Changes in transport, the pandemic-related lockdown, changes in means and frequency of travel, the need to maintain physical distance and fear on the part of everybody all contributed to huge changes in the use of space in borderlands after 2021. Reductions in long-distance travel to borderlands may reduce pollution, including CO<sub>2</sub> emissions. Other benefits would accrue with changes of border destination, especially in naturally valuable areas, due to changes of direction towards walkability. In the case of the environmental dimension, the positive effect lies in reductions in levels of traffic congestion, car-park use, and noise and vibration, pollution and other kinds of land use (Maizlish, Linesch & Woodcock, 2017; Więckowski, 2021). Other benefits of walkability are natural-resource preservation, microclimate improvement and gains in area where public space is concerned (Więckowski, 2021).

## Social-dimension benefits

These pertain to overall quality-of-life improvement as regards the quality of travel in borderlands. Different forms of sustainable transport focus on holistic approaches, including the reduction of socio-economic disparities, protection of natural resources and raising of the quality of human life. The development of sustainability in borderland areas requires the informed participation of all relevant stakeholders, as well as strong political leadership ensuring broad participation

and consensus-building. The achievement of development of this profile is a continuous process requiring constant monitoring of impacts, with necessary preventive and/or corrective measures introduced whenever necessary. In particular, such improvements pertain to the mental and physical health of inhabitants, an increased frequency and quality of social interactions, greater safety, a reduction in traffic accidents, and enhanced social justice, as seen in the availability of walking routes, cycling paths and the use of public transport (Rafiemanzelat, Emadi & Kamali, 2017; Rišová, 2020). Sustainable development should also maintain a high level of satisfaction – and ensure a meaningful experience – among locals and tourists, with awareness-raising as regards sustainability, and the promotion of sustainable practices. COVID-19 consequences may serve as an impetus for individuals to transform their travel behaviour in general, as well as in borderland areas.

## Economic-dimension benefits

Reduction in distance, travel excess, etc. should make a difference and affect the growth of sustainability, with some benefits accruing to the economic dimension. Proximity, slow tourism and green transport all contribute to enhanced attractiveness of public space, and to changes in individuals' spatio-temporal and consumption patterns. This promotes regional development and investment in new means of transport, and may also increase employment rates.

In the current era of striving to create the most sustainable mode of transport, it is very important to have guidelines on how to properly model and optimise implemented or existing shared electric mobility market services (Sperling, 2018; Axsen & Sovacool, 2019).

European projects are among the elements important to the development of transport in borderland areas (and from the economic point of view in general) are European projects (Medeiros, 2019; Michniak & Więckowski, 2021). Interreg projects are not managed centrally by the European Commission but are proposed and implemented by national and regional initiatives, and usually focus on a few key topics, including cross-border transport infrastructure, supplying border populations, health and education, as well as opportunities for the joint management of areas of key significance from the natural and tourism-related points of view (Michniak & Więckowski, 2021).

There are of course many obstacles to be overcome in borderland areas. Among other things we find administrative difficulties relating to financial risk, as well as cultural and linguistic differences, all of which may hinder the smooth implementation of Interreg projects (Metzler, 2014; Gehler & Leiß, 2016). Despite these difficulties, Interreg projects contribute to an interactive process of mutual learning and exchange of experience that can encourage long-term cooperation (Mayer, Zbaraszewski, Pieńkowski, Gach & Gernert, 2019).

## Discussion and conclusions

Transport may continue to play a key role in sustaining borderlands. Sustainable transport could obviously be understood as an innovative way of development, but may prove difficult to pursue in borderland areas, given their rather peripheral locations from a socio-economic point of view.

The article stresses the still-relevant nature of borders and borderlands, and processes ongoing in association with them, and hence the need for ongoing theoretical conceptualisation and processing in regard to the concept of sustainability. And that would be true as regards, not only

the spatial extent or scope of borderland areas, but also changing conditioning, consequences and actions. In this, a challenge that continues to be present entails the founding of concepts for the borderland that draw on selected paradigms and stress the role and importance of border and borderland geography, along with its key subjects of interest.

Each borderland area in EU has potential capable of contributing to sustainable and balanced development. We could add that the development of individual border regions is different, with regional policy paying special attention to territorial cooperation across state borders. Sometimes utilisation has proceeded at the expense of the ecological or socio-cultural environment, with this urgently calling for the achievement of sustainability in the further future. More generally, a need has arisen for a discussion and critical evaluation of governance, policy, planning, marketing, human mobilities and socio-economic dimensions.

Guidelines and management practices relating to the sustainable development of transport and borderlands could be applicable to all forms at all types of destination. As the development of a borderland always exerts certain impacts, the critical question is rather related to which of those are acceptable 'objectively', and to what degree. Indeed, transport is a dynamic activity that transforms its resources and changes absorption capacity via management actions and the development of the borderland area. Investment, policy and promotion in public transport are all in keeping with a policy of sustainable development. Generally, the changes should concern choices of means of transport and ways of spending time that are as sustainable as possible. Ultimately, it is possible to refer to certain key aspects capable of effecting change in borderlands, planner behaviour, destination management and general modes of transport.

Can the immediate future of cross-border cooperation be uncertain, and can some troubles, difficulties or diverging visions of neighbouring countries be noticed? Is the myth of the unity of border areas collapsing before our eyes? Is it a temporary or a deeper process, and does it concern the whole of the European Union or parts thereof in a special way – for example, Central Europe, including Poland? These are only some of the questions that arise on the basis of the analysis of contemporary cross-border relations. New empirical research is still needed on the accessibility of border regions. Particular attention should be paid to improving the infrastructure, institutional framework, marketing and cooperation of all stakeholders in the field.

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