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## The Geopolitical Ramifications of the China-Europe Railway Express: An Emphasis on the War in Ukraine

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## Abstract

The China-Europe Railway Express (CRE), a network of railroads connecting European and Asian cities, is a critical part of China's Belt and Road Initiative's plan to increase both China's diplomatic and economic influence abroad. This article examines the current status of the CRE in the midst of the geopolitical and diplomatic tensions facing the countries involved with the project. Due to rail travel's high efficiency, low costs, and low carbon emissions, the CRE is desirable to China as its prominence will bolster intercontinental trade as well as China's presence in Eurasia. Though the CRE has faced opposition from some European entities as the project will likely heighten China's position as a competitor and challenger to traditional Western dominance, the advancement of the CRE, and China-Europe relations as a whole, will produce a myriad of cultural, economic, and political benefits to Eurasia. The development of the CRE and, by extension, many Sino-European ties have been derailed by the war in Ukraine as many of the current rail routes travel through Russia to reach Europe. Sanctions imposed on Russian railroads and the risk of seized cargo have limited European customers' trust in rail-based transportation. Through this, the war in Ukraine has illustrated many of the vulnerabilities in the CRE's network. The future success of the CRE will likely continue to be threatened by rising geopolitical tensions as the network spans dozens of countries. The article concludes that the development of alternative routes to the CRE will be crucial in maintaining the project.

## Background

### History

Since its official launch in 2011, the China-Europe Railway Express (CRE) has become crucial to Eurasia's economic and political success. As seen in Figure 1, the railway spans from Hong Kong to Madrid, and experts such as Beijing have hailed it as a method for cheaper and more efficient trade, especially amidst the current shipping container crisis (*A Bridge Across Continents*, n.d.; Brinza & Detsch, 2022; *Rail Freight Transport*, n.d.; Siqui, 2022). In its mere 11-year life span to date, trains along the network have made over 50,000 trips and have



Figure 1: China Rail Express Routes showing five different channels, Source : [Zhang 2019]

brought 4.55 million shipping containers of cargo to Europe, valuing \$240 billion US dollars in total (“Can Link Stay on Track,” 2022). As part of President Xi Jinping's Belt and Road Initiative, the railway is designed to increase China's diplomatic and cultural presence among the countries of Europe and Asia in addition to its economic influence (“Railway Express to Bolster,” 2021). This increased presence in Eurasia has also increased the vulnerability of the rail as transportation through other countries is subject to the regulations of each respective country as well as the economic and political issues facing the countries. For the CRE to continue to develop as an economic and political resource, the railway must navigate the ever-changing geopolitical tensions between the continents.

The CRE has been hailed by foreign ministries, such as Turkey's, as a great asset in the efforts to increase connectivity between the east and west (“Turkey Welcomes Trans-Caspian,” 2019). The railway construction and more infrastructure investments have been eagerly welcomed by many of the countries that the express passes through. In 2014, many Central and Eastern European countries (Serbia, Estonia, Hungary, and Macedonia for example) agreed to work with China in developing express lines throughout their countries. This inclusion links Greece with Budapest, Macedonia's capital, Skopje, as well as Serbia's Belgrade (“Chinese Premier Highlights,” 2014). Estonia stated that they would “adhere to the one-China policy, and will work with China in the construction of the China-Europe land-sea express passage and the Silk Road Economic Belt” (“Chinese Premier Highlights,” 2014). China also invested in national rail infrastructure in the Baltics and the regional Hungary-Serbia railway (“Chinese Premier Highlights,” 2014). Through the investment in rail infrastructure of diverse sizes in these countries, China positioned itself as a partner both economically and diplomatically by effectively creating a closer connection via train and trade. In the past year, a new route from Liuzhou to Moscow was constructed (“China: The China-Europe Express,” 2021). Though these expanding Eurasian ties are signs of success for the China-Europe Express, they have also complicated the project's plans for the future with the possibility of further regional geopolitical tensions as exemplified by Russia's current aggression against Ukraine.

### **Benefits of Rail**

### The average recommended CO<sub>2</sub>-emission factors for each mode of transportation

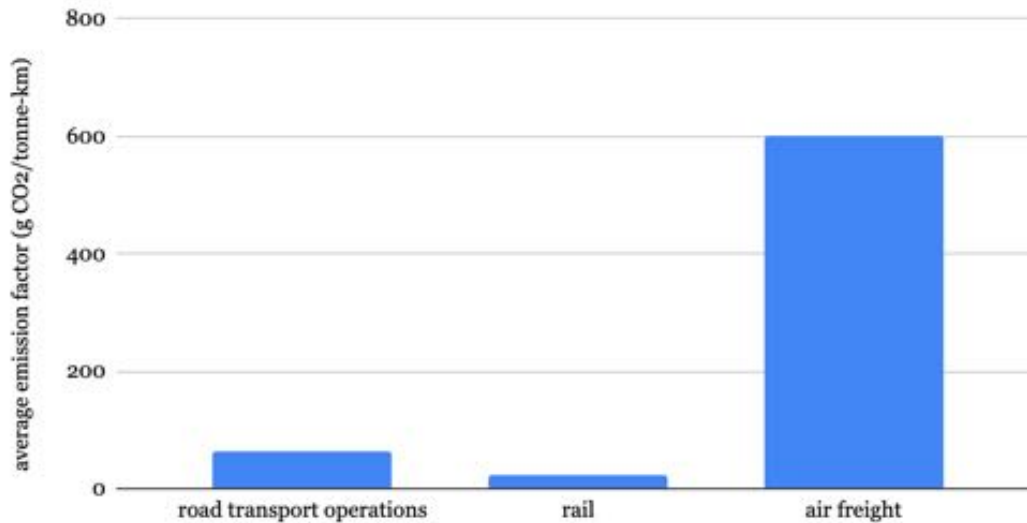


Figure 2: Graph comparing the average recommended CO<sub>2</sub> emissions of road, rail, and air transportation as calculated by professor Alan McKinnon. This is based upon the average emissions of each form on transportation. Source: [Guidelines for Measuring n.d.]

The China Railway Express is one of the most expansive contemporary rail-centered infrastructure projects in the world. The Rail network covers 180 cities in 23 European countries and connects these to 91 cities in mainland China (4.432 Million TEU, 2022) This connection between different national systems combined with China's already large amount of investments in rail infrastructure through the Belt and Road Initiative demonstrates China's push for incentivizing and implementing more sustainable and affordable means of transportation and trade. For long-distance travel, like from Europe to China, for example, rail can have extreme environmental benefits and can release upwards of 95% less CO<sub>2</sub> than a plane ("A Bridge Across Continents", 2022). As seen in Figure 2, train travel emits significantly less CO<sub>2</sub> per tonne of freight and kilometer compared to other forms of overland transportation. With this, China's development of the CRE not only increases its influence in the economic and diplomatic sectors, but in the environmental sector as well. This project portrays the country as a leader in implementing vast forms of sustainable infrastructure. Other than the environmental benefits of rail-based trade, there are also many economic and practical benefits to businesses. Rail transportation is cheaper than air travel and fast enough for perishable goods in which shipment by sea is too slow (Rail Freight Transport Between China and Europe, 2022). Especially amidst the shipping container crisis that was created due to the COVID-19 pandemic, rail transportation projects, such as the CRE, offer an ideal option for trade.

#### Logistic Operators

Trade along the China-Europe Railway Express is maintained by a myriad of different logistic operators. Some of these are Metrans, Rail Cargo Group, DB Cargo Eurasia, DB Schenker, HHLA, Neptune Logistics, and RTSB (*War in Ukraine and Rail Freight*, 2022). They maintain operations and the continuity of deliveries amidst the challenges that these rail systems face. In an attempt to make the CRE more competitive and self-sustaining and, in turn,

to increase the role of operators in the maintenance of the CRE, the Chinese central government has placed limits on subsidies for the rail (Choi, 2021). Despite this, local governments have reportedly been offering indirect financial support to logistic operators (Choi, 2021). This reliance on subsidies is unsustainable and an increased delegation of power to these operators would increase competition and the longevity of the rail.

### **China-Europe Relations Tensions**

The development of the CRE is symbolic of the development of Sino-European relations in general. Not only is the rail network and heightened trade intended to improve these relations, but the shared initiative for positive ties is a sign of a new era. This progress in diplomacy, however, has been opposed by members of the EU. Countries who believe in this “so-called ‘China threat’” have “impos[ed] sanctions and provok[ed] confrontation against China” (1st LD-Writethru, 2022). This Chinese desire for increased involvement in foreign affairs has drawn suspicion from organizations that question the intent of the project. The EU, for example, has critiqued Chinese investment in European ports and other infrastructure builds through the BRI (Devonshire, 2022). Brussels has also criticized China’s involvement in builds such as the Budapest-Belgrade for subverting EU interests (Devonshire, 2022). The EU maintains that they welcome “investment — whether domestic or foreign — as long as it is compatible with EU law,” yet these regulations have been opposed by Budapest and China as both countries view them as the EU’s attempts to meddle with progress especially as the EU is not contributing fiscally to its development (Devonshire, 2017).

Aside from the EU, many G7 countries share the view that the BRI projects are China's attempt to strong-arm poor countries into abiding by Chinese will (RFE/RL, 2022). Since the G7 countries often stand in opposition to China when it comes to foreign affairs and trade, the group is wary of the increase in China’s power and influence in Eurasia. When they met in September 2022, the foreign ministers from the countries decided to enforce stronger trade stances toward China (*G7 Nations*, 2022). Excluding China and India, the G7 nations are the seven largest world economies, and the threat of growing Chinese influence via the BRI has the potential to jeopardize the group’s dominion. These prevailing anti-China beliefs will test the continued development of the CRE as well as other Chinese diplomatic endeavors. Though the BRI is intended to break many of these barriers, China must navigate these tensions carefully by continuing to build relationships with European Countries and entities.

### **Cooperation**

China seems to be in full support of heightening diplomatic relations with Europe. As Foreign minister Wang Yi stated, the connection between China and Europe “on the basis of mutual respect and mutual benefit will add more stabilizing factors to an unstable world” (1st LD-Writethru, 2022). This cooperation is dependent upon the demonstrated “solid public support, extensive common interests, and similar strategic needs” of the countries on the continent (1st LD-Writethru, 2022). The Eurasian plate “hosts 75 percent of the world’s population, 60 percent of global GDP, and 75 percent of known energy,” this cooperation between countries in this area would bolster growth on all fronts (Brar 2022). As demonstrated by Figure 3, China’s trade initiatives through the BRI span both overland and maritime routes. This demonstrates the expanse of Chinese trade power as well as the extent of Chinese influence that has been cultivated by the BRI. Partnership projects such as the CRE will, in addition to the creation of jobs and infrastructure, help break the cultural barrier between China and Europe (1st LD-Writethru, 2022; “Railway Express to Bolster,” 2021). China’s Belt and Road

Initiative, after all, is based on the wish to bolster Chinese relations with the rest of the world and they recognize that these shared projects are the perfect method to establish these connections. There is hope that this will shift Europe's view of China in a positive light and will work to "oppose a 'new Cold War' and uphold true multilateralism" (1st LD-Writethru, 2022).



Figure 3: Map of China's international trade through the Belt and Road Initiative. This illustrates the use of both land and sea travel for exports and exemplifies the major overland BRE corridors. Source and Map: [Belt and Road Research Program 2020]

These wishes for cooperation in diplomatic efforts and infrastructure projects are not held by China alone. Countries such as France have agreed to work with China in building billions of dollars of infrastructure in Africa, Southeast Asia, and Eastern Europe (Dasgupta, 2022). The continued Chinese support of European nations and the European Union has influenced the development of such partnerships (1st LD-Writethru, 2022). These countries not only realize the power that investing in foreign infrastructure has in developing diplomatic relations, but they recognize that these projects can benefit immensely from China-European cooperation. Many European countries are willing to collaborate with China in projects in countries that are not their own, yet they remain wary of becoming too critically dependent on China in crucial sectors such as technology, and in some parts, infrastructure (Finland: The European Council). The development of the China-Europe Railway Express illustrates the nuances of Europe's position on China. The CRE is the hybrid of Europe's support and opposition to China's increased presence in the world as though the project may heighten China's position as a competitor and challenger to traditional Western dominance, the furtherment of the CRE, and China-Europe relations as a whole will produce a myriad of cultural, economic, and political benefits to Eurasia.

## Ukraine

### a. Context on war in Ukraine (in relation to CRE)



Figure 4: Timeline of the buildup for the war in Ukraine. Source: [Center for Preventive Action 2022]

The ongoing war in Ukraine has been a testament to the longstanding Russian, and Ukrainian, fear of losing regional influence to Europe and the west. When then president of Ukraine, Viktor Yanukovich, decided in 2013 to reject the EU's proposal for greater Ukrainian economic integration into the economies of the EU, the Ukrainian government was met with a surge of protests and opposition (Center for Preventive Action, 2022). Though these were met with violent crackdowns by Ukrainian state security forces, the protests demonstrate the desire for greater ties to Europe held by a prominent number of Eastern Europeans.

Over the many years of Russian aggression towards Ukraine, as demonstrated by Figure 4, NATO and the U.S. have continued to establish military forces in Eastern Europe as a way to dissuade Russia from further expansion. The region has become increasingly more militarized in response to the Russian threat and this itself has expanded western influence in the region. In December 2021, Russia's foreign ministry's called on the US and NATO "to cease military activity in Eastern Europe and Central Asia, commit to no further NATO expansion toward Russia, and prevent Ukraine from joining NATO in the future," Russia felt threatened by the increasing western influence and involvement (Center for Preventive Action, 2022). The nation is fighting to maintain its significance in an attempt to reestablish its prominence from the Soviet Era. This Russian push for Eastern European isolation from Western Europe has the potential to be reflected in Russia's view of the CRE as this rail system will connect Eastern European

countries, such as Estonia, to the rest of Eurasia both geopolitically and economically (“Chinese Premier Highlights,” 2014).

### b. Railroad importance in the war

Ukraine’s railroads have become a symbol of resistance during the war. Ukraine has 12,400 miles of track, making it one of the largest rail networks in the world (McCausland & Smith, 2022). This expanse demonstrates the extent of its importance to the Ukrainian people and the country as a whole. The rail supports western shipments of supplies and arms to the war front and the Russian army’s inability to take control of the network has been a major factor in Ukraine’s success. As seen in Figure 5, Ukraine has its largest density of rail hubs in the Southeastern region, the region closest to Russia. Due to this proximity, Russian command of the rail would be pivotal, as this could stop the influx of supplies to Ukraine and could provide an easy method of transporting goods, weapons, and people through Russian-occupied territory. Though the rail has been the subject of many Russian attacks, these attempts have been in vain (Latschan, 2022). The railroad continues to be repaired due to its importance to the Ukrainian effort (McCausland & Smith, 2022). It is clear that the control of the railway will have a major effect on the turn of the war (Latschan, 2022; McCausland & Smith, 2022).



Figure 5: Map of Ukrainian railways hubs (blue markers), demonstrating the concentration towards the southeastern border to Russia as well as the area under Russian occupation as of November 2022 (red). Sources: [Ukraine: Complex 2022; Ukraine in Maps 2022]

### c. Impacts on CRE development + success

#### i. Sanctions impact

Many countries have implemented sanctions against Russia to condemn the war and bankrupt the Russian economy such that the country will no longer have the means to fight in the war. These, of course, are heavily affecting trade throughout Russia and, by extension, the



rest of Eurasia. Companies such as DHL, Volvo, and Linge Roset can no longer ship goods as easily through Russia due to these sanctions and many have halted business via the railroad due to the fear of cargo being seized by Russia (Brinza, 2022; Siqui, 2022). These sanctions imposed on Russian railroads have limited European customers' trust in the railway and have led some to switch to sea freight (Brinza & Detsch, 2022; "Can Link Stay on Track," 2022; Tabeta, 2022; *War in Ukraine*, 2022). This decrease in trust has caused a 40% drop in railroad freight from Shanghai (Tabeta, 2022). Onno de Jong, a senior consultant for transport, infrastructure, and mobility at European research consultancy Ecorys, estimates that freight will decline by 35% by the end of the year (Knowler, 2022). Just as sanctions against Russia's annexation of Crimea in 2014 damaged rail exports between Europe and China, these sanctions could jeopardize the future of the CRE and the BRI in general (Brinza, 2022).

**ii. Chinese attempts to mitigate negative impacts**

Average number of monthly freight train trips per year

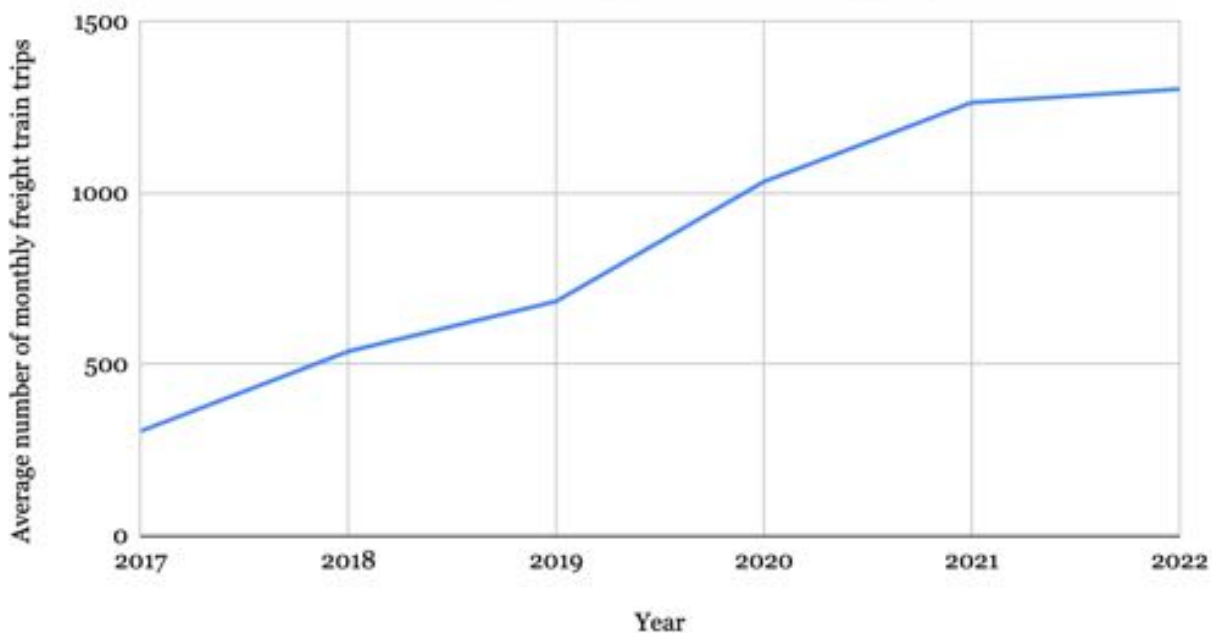


Figure 6: Graph of the average number of monthly freight train trips on the CRE from 2017-2021. This includes the trips as of January 2022, after Russia had made significant threats to Ukraine. The total number of train trips in January 2022 are displayed here. Source: [Ong 2022]

Recently, the rate in which train trips are increasing has declined, as illustrated by Figure 6. This decline correlates with the Russian aggression in Ukraine and has been a threat to land-based transportation in the region, but this has not caused China to abandon all hope in the project. In fact, this has led operating companies affiliated with Xi Jinping to cover a form of war insurance on the freight transported via rail (Siqui, 2022; Tabeta, 2022). These payments act as an incentive for companies to use the railway to transport their products. It ensures that all costs that the company is not responsible for will be covered as well as the costs if a train is

turned back due to sanctions and trade restrictions (Tabeta, 2022). Despite this insurance, many customers have declined it, continuing to prefer sea and air transportation due to the risks.

### iii. Chinese ties to Russia (how it impacts trade with Europe & development through Ukraine)

China has yet to formally condemn the Russian invasion of Ukraine but has not publicly

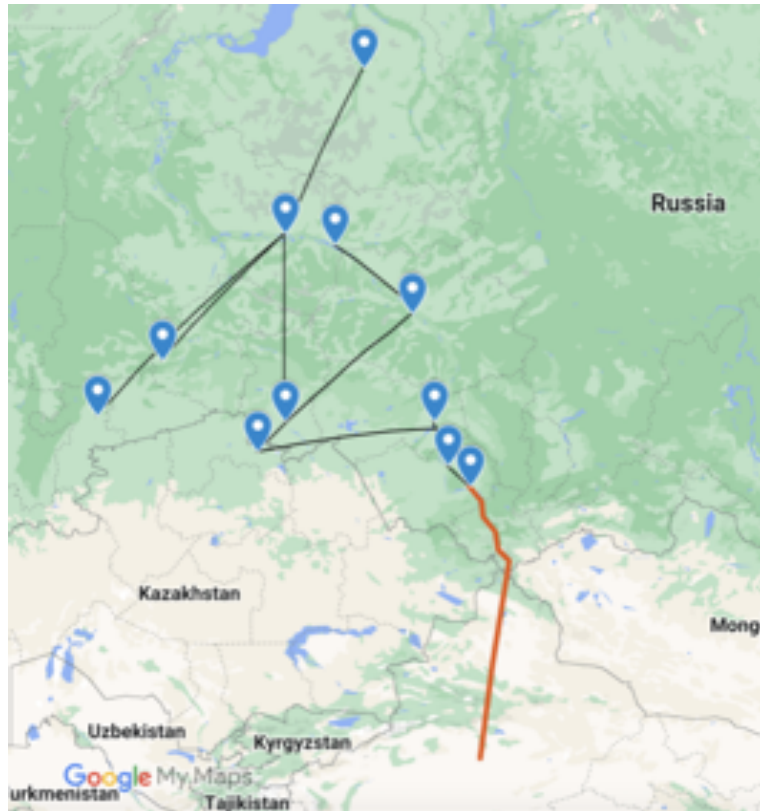


Figure 7: A map of the Altai pipeline (red line), a planned oil pipeline that will span from Russia to China. The map also displays (black lines) the existing pipelines that the Altai will connect to. Source: [Keeping Pipelines 2011]

come out in support of Russia either (Brinza, 2022). The war has caused a predicament for China as though the country's economy has been affected by the war, its ties with Russia have complicated the matter.

### d. Changing ties with Russia due to war

In addition to its ties with Russia through the central channel of the CRE (Figure 1), China remains economically dependent on Russia through the use of Russia's oil supply. Just as it is for many Eurasian countries, Russia remains one of China's largest energy suppliers. Russia produces 12.2% of the world market's petroleum, making it the third largest oil producer globally (Amoros, 2022). It is also a member of the Commonwealth of Independent States (CIS), an international oil production institution. The CIS produces 15% of the global oil, giving Russia even more influence in the oil market (Amoros, 2022). The most prominent intergovernmental oil production organization is by far the Organization of Petroleum Exporting Countries (OPEC). Some prominent OPEC members are Iran, Iraq, Kuwait, Saudi Arabia and Venezuela (*Member Countries*, n.d.). Collectively the institution produces 35% of the world's oil (Amoros, 2022). In

early October 2022, OPEC announced that they will be pulling back on the release of oil exports. This decision has given Russia and the CIS much more power and influence over the oil market. Since Russia is one of the second largest non-OPEC oil producers and the largest non-European producer in the Eastern Hemisphere, this decision has increased the demand for Russian oil as the decrease in available OPEC oil in Eurasia has shifted the market's attention to this available Russian oil. This oil is desired even in the midst of worldwide sanctions on Russian oil due to the war in Ukraine. The decrease of available non-Russian oil, has muddied the waters as China's economic interests in using Russian oil complicate Chinese ties with the West as many western countries insist that their allies follow suit by imposing sanctions on Russia (Huang, 2022).

China intends to continue with the support of the construction work on the Altai gas pipeline project, as seen in Figure 7, a pipeline that will connect Siberian oil fields with China through Mongolia, as this Russian gas is crucial to its economy (Brar, 2022). According to the chief of Russia's state-owned oil company, Gazprom, China is expected to become Russia's "primary customer of oil and gas in the future" (Brar 2022). These ties exemplify China's current rocky foreign relations as they seem to be caught between opposing economic interests with this war.

China's convoluted ties with Russia have complicated the country's stance on the war. Plans for the development of the CRE through Russia have been on the negotiating table since the creation of the CRE in 2011. Both countries having unstable foreign relations, however, have led to the loss of much progress on the route. Since Putin's war in Ukraine has caused much instability with the progress of the CRE, the Chinese have attempted to develop alternative routes. This move from Beijing, however, may bring Russia back to the negotiating table, as the removal of Chinese involvement could be detrimental to Russian infrastructure projects (Brar, 2022).

#### **e. Future of routes with Ukraine**

The war in Ukraine has likely crushed the possibility of further development of the CRE within Ukraine in the near future. The country's infrastructure is so unstable that even if the war were to end immediately, the restart of these projects is very unlikely. The war has affected the willingness of customers to purchase goods via this route due to its current instability and these beliefs will likely hold true in the minds of prospective customers in the future ("War in Ukraine Challenging", 2022). This is even expected to decrease opportunities for the BRI in general in Ukraine as companies will still view the country as too risky for long-term infrastructure investment ("War in Ukraine Challenging", 2022).

#### **f. Ukraine's effect on the Future of CRE**

The war in Ukraine has, in some respects, destroyed China's dream of rail connectivity (Dasgupta, 2022; Forough, 2022). Since most of these routes pass through Russia, the war has shown the weaknesses in this route even though, geographically speaking, "Russian landmass was the most reliable land route to the rich EU market" (Forough, 2022). Furthermore, the war has brought to attention the extent to which geopolitical tensions can have on infrastructure development as a whole. The CRE's Russian-centered path is dependent on the stability of one country. This setup, for such extensive routes, is not practical. For the success of the project, there must be many contingency plans with other countries to assure the stability of such important trade networks even amidst global conflicts. The war in Ukraine has made it apparent to China exactly how crucial the development of alternative routes is for the success of huge collaborative projects.

### Alternative Routes

The need for alternative routes has shifted the focus toward routes that pass through Central Asia. As seen in Figure 1, the Eastern, Central, and Western routes, the main routes to Europe, pass through Russia at some point, thus making the CRE dependent on Sino-Russian ties. While Russian routes should continue to play an important part in the CRE's success, such as the direct cross-border from Liuzhou to Moscow, Russian dependency is incredibly risky in the midst of the political instability of the Russian-Ukrainian war ("China: the China-Europe," 2021).

Channel	Cross-border Pass	Railway connections
Western channel	Alataw (China/Kazakhstan)	Kazakhstan-Trans-Siberian Railway (Russia/Belarus/Poland)
Central channel	Manzhouli (China/Russia)	Trans-Siberian Railway (Russia/Belarus/Poland)
Eastern channel	Erlianhot (China/Mongolia)	Mongolia-Trans-Siberian Railway (Russia/Belarus/Poland)

Figure 8: A table of the Railway connections and cross-border passes of the CRE. Source: [Zhang G, 2019]

The rail networks of the CRE are connected to numerous smaller national and regional railways as demonstrated in Figure 8. Due to this, the CRE must be subject to the regulation of these railroads as the diversification offered by them plays a huge role in the success of the network as a whole.

Due to the conflicts in Eastern Europe, China may begin to focus more on the western and southern channels. The planned Southern Channel as seen in Figure 1, connects the CRE with Kazakhstan, Uzbekistan, Turkey, and other central Asian countries (Dasgupta, 2022). By pursuing this route the CRE can reach Europe and bypass Russia while simultaneously building its influence within these regions (Forough, 2022). Some of the world's largest shipping companies, such as Maersk, have brought much attention to the Middle corridor, the central route, through the switch of their routes with Maersk even canceling recent shipments through Russia and building a train service in the Middle Corridor (Standish, n.d.). The southern channel has proved to be a desirable route as it improves European access to Turkey, the Caucasus, Central Asia, the Middle East, East Africa, India, and China while avoiding Russia. With this, the southern channel, in combination with the Middle Corridor, is the ideal next step for the CRE.

### Future of CRE & BRI in general

When looking toward the future of the CRE, it is clear that a greater diversification of routes to Europe is crucial for the project to thrive. As work on constructing these alternative routes continues, the CRE's progress may be threatened as more geopolitical tensions and conflicts arise. While "passing through dozens of countries is an asset during peacetime," amidst rising tensions, the CRE may be viewed by prospective customers as "particularly fragile compared with air and ocean freight," decreasing the success of the railway (Siqui, 2022). As seen with the decrease in freight transportation due to the war in Ukraine, companies' fear of network instability may continue to outweigh the benefits of rail transportation.

Though the increase in alternative routes will likely lead to increased stability of the railway as a whole, the construction of these separate routes and railway connections will remain dependent on negotiations with each individual country that the rail passes through. While the project can provide a common goal that can lead to increased diplomacy and Chinese

foreign ties, as the BRI intends, the rail and the goods transported on it will continue to be subjected to the trade regulations of each country, potentially lowering the efficiency of the network.

In coordination with the Foreign Minister of China's statements that China stands with Europe, the rail continues to be a strong indicator of China's wishes to increase ties with Europe ("1st LD-Writethru," 2022). Though the war in Ukraine, as well as other geopolitical tensions, may decrease opportunities for the CRE as well as for the Belt and Road Initiative in general, the push for intercontinental connection through trade and diplomacy is essential for continuing Sino-European relations in the future ("Can Link Stay on Track," 2022; *War in Ukraine*, 2022)

#### **Discussion section:**

The CRE's development is dependent upon international cooperation and the mutual belief in the benefits of international connectivity. At the same time, these vast infrastructure projects have the ability to provide a net success for all parties involved. They can act as connecting forces between the general public of the nations involved and can create a sense of unity and community among demographics that would have otherwise been isolated due to geography. These community-building properties of global infrastructure projects can, in turn, create the desire for increased connectivity partnerships in projects, thus demonstrating the cyclical nature of globalization.

Global projects like the CRE are built upon the cooperation of many nations. These partnerships with a large number of countries add redundancy to the rail network, increasing the resilience of the projects in the event of a conflict, like the war in Ukraine, manifesting. In this way, if one route is unavailable, there will be many routes for trade to continue to flourish as designed. These conflicts can be detrimental to projects if the specific infrastructure is too reliant on the parties involved in the conflict. Though the CRE has alternate routes and corridors, since such a large amount of the rail goes through Russia, the project's success is reliant on the continued development and maintenance of these alternate routes, especially in the midst of the conflict in Ukraine. The development of routes not affiliated with Russia may ultimately lead to a shift in Russian behavior with the international community. The growing prosperity and influence of the CRE over diplomacy and trade in Eurasia will demand a Russian shift in policy if the country wishes to remain relevant. Further Russian isolation through the development of alternative CRE routes will decrease Russian influence and force the country to abide by the will of the nations that control the CRE. Greater involvement in the CRE and the establishment of new routes is an opportunity for the UN and other organizations opposed to current Russian actions to manipulate the country's decisions in the future.

The war in Ukraine has highlighted the weaknesses in creating international infrastructure that is too dependent on one nation. Such vast projects can easily be damaged by the reliance on singular unstable nations. It has made the importance of a large network of cooperating nations apparent. Not only is this helpful for the expansion of Chinese influence and diplomatic ties in Eurasia, but it is also crucial for furthering international rail-based trade.

When looking toward the future of the CRE, one must wonder how the war in Ukraine has altered Chinese funding for the CRE. Has funding been reallocated towards the work on building the southern route? Or has it overall decreased the enthusiasm of the CRE within the Chinese government? These questions are important for analyzing the effects that the CRE has had on policy decisions within the governments that support the project as well as their outlooks on its future. The increased knowledge of the CRE's influence on policy as well as the project's future

funding could provide prospective partner organizations with information on their role in the CRE's future.

**Limitations:**

The largest limitation in this research process was the difficulty in finding data on the CRE from credible and current sources. Since the Chinese government and private logistic operators, which are largely based in China, are the main parties that have the ability and resources to gather data on the development of the CRE, this has decreased the availability of accurate and current statistics as many of these sources have not released recent data. Figure 6, for example, was based upon a combination of averaged monthly trips completed on the CRE, for the years before 2022 as well as the number of trips completed in January of 2022. This discrepancy is because, at the time of writing, the average monthly trips for 2022 have not been released to the public. The monthly trips for later months were also not found. This difficulty in locating recent statistics hindered the ability to display the effects of the war in Ukraine on the CRE.

Since the conflict in Ukraine is still evolving, the extent of the effects of the war on the CRE is still largely unknown. The true scope of the matter will likely remain unclear for a few years after the conflict is resolved. For further investigation on how the conflict has affected Chinese policy in regard to the CRE as well as the plans for the future of the project, direct and current statistics from studies done by logistics operators and the Chinese government would be invaluable. Moving forward, the lack of these current statistics will remain the biggest barrier to further research. These may be released with yearly reports published by the logistic operators and governments involved with the project and the attainment of these statistics will likely be the catalyst for future research.

**Conclusion:**

The China-Europe Railway Express has been significantly impacted by the war in Ukraine as this conflict has demonstrated the importance of redundancy in creating global networks. In regard to the effects of the CRE on the development of the war in Ukraine, the country has suffered due to Russian attempts to limit Ukraine's access to supplies brought in by rail. Ukraine forces have continued to repair damaged rail lines as access to these supplies is so crucial. With this, the importance of redundancy of rail lines within countries has been further emphasized as networks that deliver critical resources must be durable. Ukraine's urgency to repair damaged rail infrastructure has demonstrated the role that this infrastructure can play in times of conflict. The war in Ukraine has illustrated the importance of continuous development and maintenance of rail-based projects in areas that wish to utilize this form of transportation.

An accomplished goal of this project was to demonstrate the connection between the geopolitical and infrastructural ties made through the development of the CRE in a digestible manner. With the construction of compact and easily readable figures, this work has created a compilation of the available information on the CRE in the context of the Ukrainian war. This work will hopefully aid in the greater public understanding of the CRE, itself, as well as the ties that these infrastructure projects have to diplomacy. The access to this information on the CRE's background will hopefully inform individuals on some of the benefits of international collaboration when working to achieve mutual goals. This work ideally will serve as a better starting point for further research.

## Abbreviations

BRI	Belt and Road Initiative
CO <sub>2</sub>	Carbon Dioxide
CRE	China-Europe Railway Express
CIS	Commonwealth of Independent States
COVID-19	Coronavirus disease of 2019
DHL	Dalsey Hillblom Lynn
EU	European Union
G7	The international Group of Seven
NATO	The North Atlantic Treaty Organization
OPEC	Organization of the Petroleum Exporting Countries
US	The United States

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