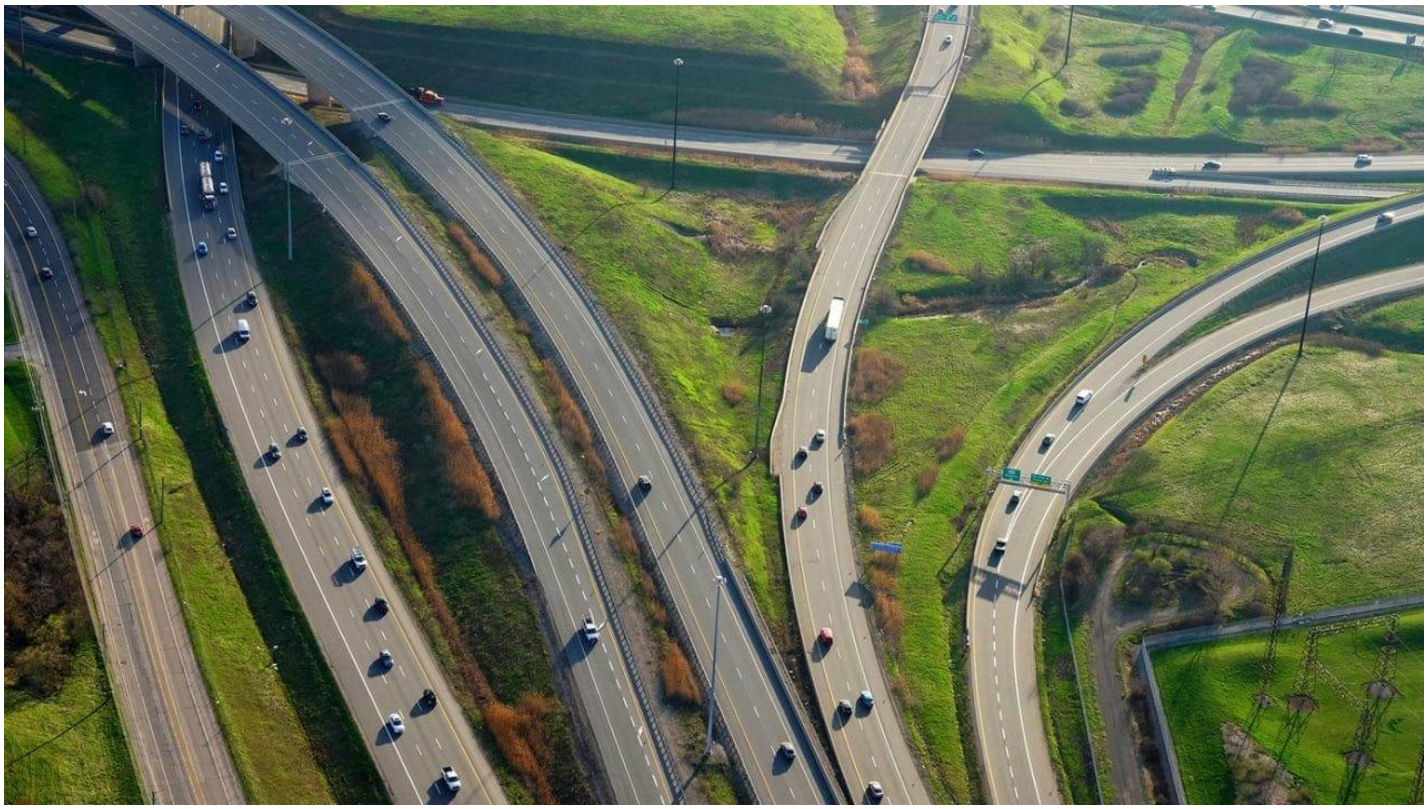
Final Report
October 2023

# Economic and Community Impact of Ferrovial Toll Roads



Cintra Servicios de Infraestructuras, SA

steer

Final Report
October 2023

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# Executive Summary

### Overview

This report summarizes the 2022 Economic and Community Impact of Ferrovial Toll Roads (the Report), which analyzed Ferrovial's Toll Road division, Cintra, and their portfolio of highway and managed lanes assets globally. This analysis includes two key dimensions:

- **Impacts to Regional Economies –** understanding how expenditure on these assets generates impacts to employment and economic output, which represents the value of industry production; and
- **Impacts to Travelers and Communities –** understanding how each project generates value to travelers and the communities in which Cintra's facilities are located through the application of standardized transportation benefit-cost analysis.

This study is an update to the 2021 Economic Impact of Cintra Assets Report that assessed impact through 31st December, 2021. This study includes the following key changes:

- Adding Cintra's India assets, reflecting Cintra's investment in IRB Infrastructure Developers Ltd, and their roadway assets, made in December 2021;
- Removing Ausol in Spain and Algarve in Portugal as Cintra has divested from their positions in these assets;
- Updating the methodology for the estimation of socio-economic performance in the areas of fuel consumption, emissions and safety impacts based on emerging research and improved data sets unavailable for the previous study;
- Integrating a new full year of analysis (2022) into all models – including Cintra's most recent data and updated data for geography specific considerations (such as economic and transportation data); and
- Forecasting the potential future economic impacts of assets through to 2032.

### Assets Included in Analysis

This study analyzed 34 assets from ten countries. Cintra has noted these assets represent a total investment under management of $22.4 billion USD, excluding Indian assets, as of 31st December, 2022. This portfolio includes all road infrastructure projects (excluding one parking asset as it would require a dedicated methodology to evaluate which would not be consistent with the rest of the portfolio evaluation approach) –owned either as a minority or a majority shareholder – by Cintra as of December 31st, 2022. Two assets, Madrid Calle 30 and Aravia, were not included in the analysis as these assets were not owned by Cintra for the entirety of 2022. Unless specified, the price base for values presented in this report is 2022.

## Methodology

Each asset was analyzed with a consistent methodology to determine Impacts to Travelers and Communities (changes to value to travelers and communities due to investment in the transportation network) and Impacts to Regional Economies (outcomes associated with spending on infrastructure).

**Impacts to Regional Economies** were estimated using an industry standard Input Output (IO) model calibrated on two data sources:

- **For US assets -** US Bureau of Economic Analysis. RIMS II data for 2019; and
- **For other assets -** OECD, Input-Output tables for 1995 – 2018 (latest release from November 2021)

**Impacts to Travelers and Communities were estimated using a blend of asset specific data** (such as travel volumes, speeds, and travel time reliability before and after asset delivery) and standard economic factors and parameters (such as value of time or value of greenhouse gas emissions). Results were estimated in line with peer practice applied by infrastructure investors, regulators, and public sector agencies. This analysis used a methodology based upon regional and national appraisal approaches from the jurisdictions where Cintra assets are located. These methodologies have been combined for global application to allow for seamless application across all Cintra assets. As a result, it should not be used as a substitute for asset-specific economic evaluations. These evaluations may make use of data, tools, and methods that are asset specific and cannot be deployed across a whole portfolio. As a result, they may differ from the impacts estimations included in this study. The evaluation includes the estimation of benefits to travelers (from faster and more reliable travel times), Impacts to Communities (changes in emissions and health impacts, which could be positive or negative), and Wider Economic Impacts (changes to the overall productivity of a region resulting from improved transportation).

This study includes methodological changes to the estimation of two External Impacts (changes in safety and emissions). These changes have resulted in a significant increase in the economic value of these impacts. The revised safety methodology for North American assets uses new accident severity data. The revised emissions methodology, which used globally, has been improved to incorporate vehicular speed and its relation to emissions levels. The new methodology retains a conservative and consistent basis of analysis for all assets, but more robustly captures asset performance. For these significant changes in methodology, we have applied the change to all years in the assessment.

Beyond the methodological changes mentioned above, this study builds upon the study released in 2022, by including an additional year of analysis (2022) and by including changes in asset usage and traffic as travel patterns continue to evolve alongside wider macro-economic trends. As a result, volumes and travel speeds may be different for some assets compared to the previous analysis. Additionally, as macro-economic changes occur, the value of impacts and level of economic impact from expenditure can change as well, which has an impact on the study results. It should also be noted that the number and types of assets included in this study have changed alongside Cintra's commercial involvement in assets around the world. The price base in which impacts are reported has also been adjusted from 2021 prices to 2022 prices.

### Overarching Findings

Estimates for Impact to Regional Economies is shown in Table E.1, while Impact to Travelers and Communities is shown in Table E.2.

**Table E.1: Impact to Regional Economies**

| | Estimated Historic Performance | | | Forecast Future Performance (2023-2032) | | |
|---|---|---|---|---|---|---|
| | Economic Output (million USD) | Salary Earnings (million USD) | Employment (total FTE) | Economic Output (million USD) | Salary Earnings (million USD) | Employment (total FTE) |
| Australia | $5,400 | $770 | 11,700 | $810 | $160 | 2,700 |
| Europe | $13,600 | $2,900 | 77,600 | $2,300 | $450 | 9,300 |
| India | $680 | $120 | 11,200 | $1,100 | $190 | 17,600 |
| North America | $42,700 | $11,800 | 228,100 | $9,100 | $2,600 | 48,900 |
| South America | $1,900 | $170 | 16,200 | $190 | $20 | 2,200 |
| **Total** | **$64,300** | **$15,700** | **344,700** | **$13,500** | **$3,400** | **80,600** |

Table E.1 notes a significant Impact to Regional Economies. This includes – an estimated $64.3 billion in economic output has been generated over the asset lifecycle through to year-end 2022. In addition, $15.7 billion in salary earnings (spread across all countries included in the study) were generated by the Cintra's current assets over their lifecycle through to year-end 2022. Over the same period, there have been an estimated 344,700 Full Time Equivalent (FTE) job-years of labor generated to construct and maintain/operate the assets.

Over the 2023-2032 period, an additional $13.5 billion of economic output, $3.4 billion of salary earnings, and an estimated 80,600 Full Time Equivalent (FTE) job-years of labor are forecasted to be generated from the construction and maintenance/operations of the current portfolio.

**Table E.2: Impacts to Travelers and Communities**

| | Estimated Historic Performance (million USD) | | | Forecast Future Performance (2023-2032) (million USD) | | |
|---|---|---|---|---|---|---|
| | Total Impacts | Impacts to Travelers | Impacts to Communities (External & Wider Economic) | Total Impacts | Impacts to Travelers | Impacts to Communities (External & Wider Economic) |
| Australia[1] | $30 | $30 | $0 | $70 | $70 | $0 |
| Europe | $6,200 | $4,600 | $1,600 | $7,900 | $5,900 | $2,000 |
| India | $1,300 | $940 | $390 | $19,600 | $14,000 | $5,600 |
| North America | $28,700 | $19,800 | $8,900 | $27,500 | $14,600 | $12,900 |
| **Total** | **$36,200** | **$25,400** | **$10,900** | **$55,000** | **$34,600** | **$20,500** |

Table E.2 notes a range of Impact to Travelers and Communities – including $36.2 billion in value realized to date from Cintra's current assets. This includes $25.4 billion of direct Traveler Impacts (from faster and more reliable travel times), and $10.9 billion in Community Impacts, consisting of $6.4 billion in External Impacts (changes in collisions and emissions), and $4.5 billion in Wider Economic Impacts (reflecting improved productivity due to decreased travel times). The forecasts for the 2023-2032 period notes an estimated additional benefit of $55 billion, which is comprised of $34.6 billion of direct Traveler Impacts, and $20.5 billion in Community Impacts, comprised of $14.5 billion in External Impacts and $5.9 billion in Wider Economic Impacts.

*Future results for Impacts to Travelers and Communities and Impacts to Regional Economies may vary from these depending on the assets Cintra includes in its portfolio and broader economic and demographic trends.*

[1] Note – External Impacts in Australia were found to be negligible within the historic review as well as the future forecast, resulting in a rounded value of zero.

# 1 Introduction

## 1.1 Overview

Steer conducted an analysis of Cintra's portfolio of highway and managed lanes assets in North America, Latin America, Europe, Australia, and India with a focus on:

- **Impacts to Regional Economies –** understanding how expenditures on these assets generate regional impacts, including economic output, earnings, and employment.
- **Impacts to Travelers and Communities –** understanding how each project generates value to travelers, and communities through the application of standardized transportation benefit-cost analysis.

This document is the final report for this study and has been prepared to summarize the methodology and main findings.

## 1.2 Study Purpose

This study assessed the global impact of 34 highway and managed lane assets using a comprehensive approach that applied three principles:

- **Consistent –** the same methods and overall approach to analysis are applied to all assets in the world. Some assets may use specific methods or data sets, but efforts have been made to standardize the analysis.
- **Robust –** the methods draw upon relevant practice from peer studies and public agencies who conduct economic appraisal of transportation investment. Methods are directly traceable to accepted practice for both the Impacts to Travelers and Communities and the Impacts to Regional Economies.
- **Scalable and repeatable –** the methods can be applied to other assets and used for future year analysis.

A methodology was developed that balances these principles against available data and asset specific context across a wide range of assets in North America, Latin America, Europe, Australia, and India.

### 1.2.1 Study Usage and Limitations

This Study draws upon available evidence and information on historic and projected asset performance alongside regional and national data to estimate economic impacts. The outputs of this analysis can be used for a range of purposes, including internal asset planning, investment engagement, and project reviews.

## 1.3 Report Structure

The remainder of this report is structured as follows:

- **Chapter 2 – Asset Portfolio –** an overview of the assets included in this analysis
- **Chapter 3 – Impact Estimation Methodology –** a summary of the methodology used to analyze each asset
- **Chapter 4 – Results –** the detailed results for each asset included in the analysis
- **Chapter 5 – Conclusions –** a summary of the study

# 2 Asset portfolio

## 2.1 Overview

This section of the report provides background information on the assets included in the assessment in two subsections: portfolio overview, and list of assets.

## 2.2 Portfolio Overview

The asset portfolio selected for the economic and Traveler/Community Impact evaluation consists of 34 assets from ten countries. Cintra has noted a total investment under management as of 31st December, 2022 of $22.4 billion USD, excluding Indian assets. This portfolio includes all of Cintra's road infrastructure projects that have had a financial closure and are either in operation or in construction with a full year of ownership up to 31st December, 2022.

The first year of Impacts to the Regional Economy is generally represented by the beginning of the construction period. The first year of Impacts to Travelers and Communities, however, is generally not represented by the opening year of operations, as our analysis of this impact begins with the first full calendar year of operation. The analysis of Indian assets begins in 2022 for both the Impacts to Travelers and Communities and the Impacts to Regional Economies in order to align with Cintra's investment in these assets in December 2021. The full impacts of all assets were assessed and reported on regardless of the proportion of equity of those assets that belongs to Cintra.

## 2.3 List of Assets Included in Analysis

Table 2.1 summarizes the key aspects of each asset considered in the analysis.

Serranopark was excluded from the study scope as it would require a dedicated methodology to evaluate impacts from parking infrastructure, which would not be consistent with the rest of the portfolio evaluation approach.

A more detailed summary and profile of each asset can be found in the one-pager sheets in Appendix A.

**Table 2.1: Summary of Cintra asset portfolio analyzed for economic and traveler/community impacts**

| | Asset | Location | Length (Miles) | Beginning of Concession (First Year of Impact to Regional Economy)* | Opening Year*,** |
|---|---|---|---|---|---|
| 1 | NTE | TX, US | 13 | 2009 | 2014 |
| 2 | LBJ | TX, US | 13 | 2009 | 2015 |
| 3 | NTE35W | TX, US | 17 | 2013 | 2018 |
| 4 | I77 | NC, US | 26 | 2014 | 2019 |
| 5 | 407 ETR | Canada | 67 | 1999 | 1999 |
| 6 | 407 Ext 1 | Canada | 20 | 2012 | 2016 |
| 7 | 407 Ext 2 | Canada | 20 | 2015 | 2019 |
| 8 | Autema | Spain | 30 | 1986 | 1989 |
| 9 | A66 | Spain | 30 | 2012 | 2015 |
| 10 | Azores | Portugal | 58 | 2006 | 2011 |
| 11 | M4-M6 | Ireland | 22 | 2003 | 2005 |
| 12 | M3 | Ireland | 31 | 2007 | 2010 |
| 13 | M8 | UK | 18 | 2014 | 2019 |
| 14 | Toowoomba | Australia | 25 | 2015 | 2019 |
| 15 | I-66 | VA, US | 23 | 2016 | 2023 |
| 16 | Silvertown | UK | 1 | 2019 | 2025 |
| 17 | D4-R7 | Slovakia | 37 | 2016 | 2022 |
| 18 | Western Roads Upgrade | Australia | 149 | 2019 | 2025 |
| 19 | Ruta del Cacao | Colombia | 94 | 2016 | N/A |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 980 | 2022 (15 assets) | 2022 (12 of 15 assets) |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.
**The opening year may differ from first full year of Impact to Travelers and Communities as we have started the analysis with the first full calendar year of operations.

# 3 Impact estimation methodology

## 3.1 Overview

- This chapter provides an overview of the overarching methodology for estimating the economic performance of Cintra's global assets. It includes the following sections:
- 3.2 – Logic Framework – a summary of how Cintra's assets generate benefits to travelers, communities, and the overarching economy.
- 3.3 – Methodology Overview – a high-level summary of the approach used to estimate benefits.
- 3.4 – Impacts to Regional Economies – a detailed methodology for estimating two key regional economic impacts – change in economic output and employment.
- 3.4 – Impacts to Travelers and Communities – a detailed methodology for estimating the benefits to Travelers who use Cintra assets as well as Wider Economic Impacts associated with their use.

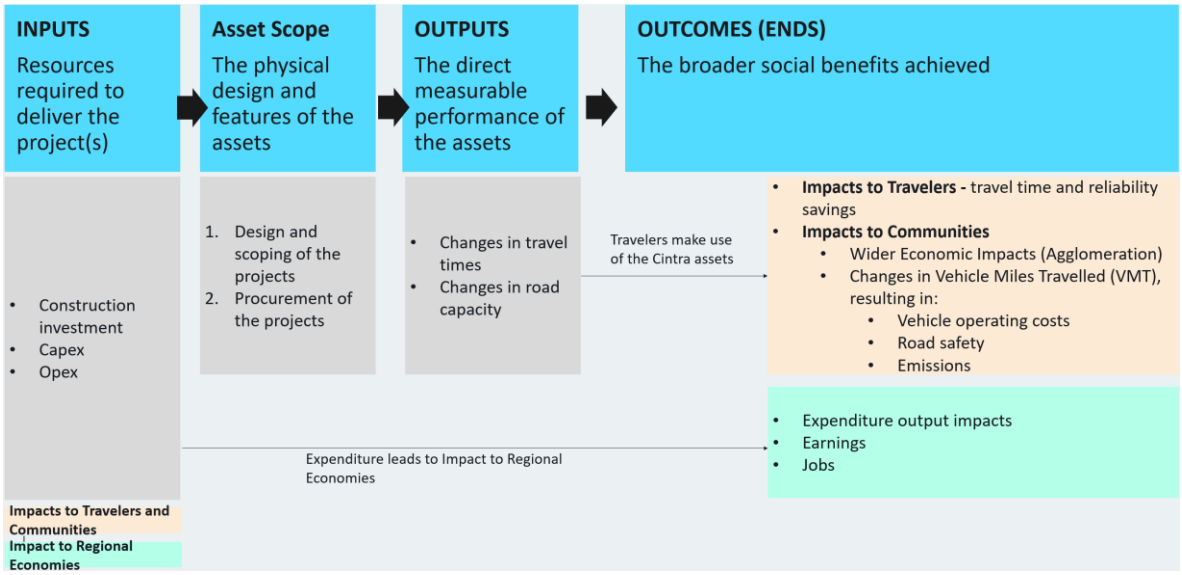
## 3.2 Logic Framework

This Study assessed how Cintra's assets impact regional economies, travelers, and communities where Cintra operates assets. The Study made use of the logic framework presented in Figure 3.1, which is an explicit representation of how Cintra's assets were evaluated. This framework describes the process where the investment of resources to build and operate the road assets in the portfolio transforms into outcomes for the community and the regional economy.

For example, investing in the design, development, and operations of new roads generates additional expenditure in the regional economy. This effect results in additional economic output, earnings, and jobs for workers.

Similarly, these same investments will lead to changes in travel times and distances for travelers. These variations will lead to changes in travel time, vehicle operating costs, road safety, emissions, and agglomeration (productivity), which provide impacts to roadway travelers and community members.

**Figure 3.1: Logic framework to evaluate the economic impact of Cintra assets**




Source: Steer

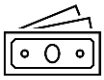
## 3.3 Methodology overview

The methodology to estimate the impact to regional economies and travelers and communities of Cintra assets was designed to achieve the following goals:

- Provide an overarching, consistent, standardized, and comparable evaluation framework for all of Cintra's road assets across different countries.
  - The framework is designed to make use of available national, regional, and project data to understand impacts across assets and regions.
  - This analysis does not substitute project-specific economic evaluations, which are expected to use more in-depth analyses for more detailed economic estimations.
- Quantify the historical outcomes identified in the logical framework on a year-by-year basis, generally from the beginning of the concession, up to 2022, and then forecast outcomes over a reasonably foreseeable period from 2023 to 2032. A single year of activity (2022) was considered for Cintra's Indian assets because Cintra's ownership of those assets began in December 2021.

The proposed methodology presented in Table 3.1 quantifies the Impacts to Regional Economies and the Impacts to Travelers and Communities produced by the investment in road infrastructure across the portfolio.

**Table 3.1: Methodology summary for calculating the impact of Cintra's assets**

| Type of impact | Definition | Overarching methodology | Impacts quantified |
|---|---|---|---|
|  Impact on Regional Economies | Direct, secondary, and induced impacts of project expenditures on the economy of the region of influence. | Apply Input \| Output models to convert each asset capital and operational expenditures into economic outputs through economic multipliers. | • Economic output<br>• Earnings<br>• FTE Jobs |
|  Impact on Travelers and Communities | This methodology assesses how Cintra actions can impact travelers (by changing their speed and reliability of travel) as well as the broader community – as defined by air quality, pollution, and collisions resulting in death or injury, compared to a scenario without the investment. | Use a hypothetical no-project scenario and compare the incremental impacts between this and the project situation for each asset. | **Traveler Impacts**<br>• Travel time and reliability<br>• Vehicle operating costs<br>**External Impacts**<br>• Safety<br>• Emissions<br>**Wider Economic Impacts**<br>• Agglomeration (productivity) |

Source: Steer

The Impacts on Regional Economies are estimated for all assets in the portfolio (including costs to deliver and operate the assets across the entire asset lifecycle to date) whereas the Impacts to Travelers and Communities are only quantified for projects that have at least one full year of operations (for example: Western Roads Upgrade and I-66 are excluded since they were fully opened to traffic after 1st January, 2022). A single year was considered for the Indian Assets (2022) as Cintra's ownership of those assets began in December 2021. This is summarized in Table 3.2.

**Table 3.2: Impacts Calculated by Asset**

| | Asset | Location | Impacts on Regional Economies | Impacts on Travelers and Communities |
|---|---|---|---|---|
| 1 | NTE | TX, US | ● | ● |
| 2 | LBJ | TX, US | ● | ● |
| 3 | NTE35W | TX, US | ● | ● |
| 4 | I77 | NC, US | ● | ● |
| 5 | 407 ETR | Canada | ● | ● |
| 6 | 407 Ext 1 | Canada | ● | ● |
| 7 | 407 Ext 2 | Canada | ● | ● |
| 8 | Autema | Spain | ● | ● |
| 9 | A66 | Spain | ● | ● |
| 10 | Azores | Portugal | ● | ● |
| 11 | M4-M6 | Ireland | ● | ● |
| 12 | M3 | Ireland | ● | ● |
| 13 | M8 | UK | ● | ● |
| 14 | Toowoomba | Australia | ● | ● |
| 15 | I-66 | VA, US | ● | |
| 16 | Silvertown | UK | ● | |
| 17 | D4-R7 | Slovakia | ● | ● |
| 18 | Western Roads Upgrade | Australia | ● | |
| 19 | Ruta del Cacao | Colombia | ● | |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | ● (15 assets) | ● (12 of 15) |

Forecasted asset performance (2023-2032 period) is based on the most recent economic data for both the Impacts to Regional Economies and the Impacts to Travelers and Communities and, future projections of expenditure and traffic growth data that were provided by Cintra.

Sections 3.3 to 3.4 describe the impacts and the assumptions for each impact type.

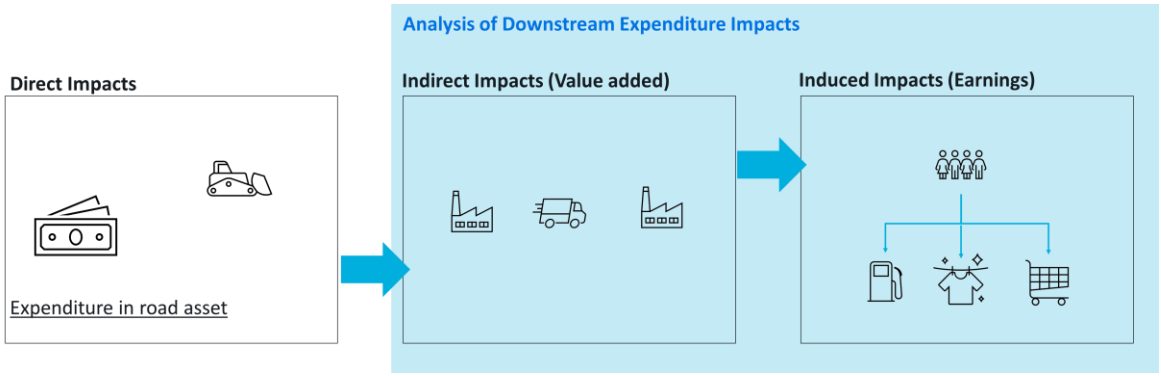
## 3.4 Impacts to Regional Economies

Impacts to Regional Economies describe the direct, indirect, and induced impacts of spending on the economy. These are estimated with input-output (IO) models which use region-specific multipliers for precise expenditure impacts.

The IO analysis is a very standard approach to quantify expenditure impacts. These models provide an estimate of the total economic output generated by the initial investment (Direct Impacts) that includes the production of intermediate goods and services in the supply chain (Indirect Impacts), as well as economic activity generated from the spending of workers (Induced

Impacts) represented in Figure 3.2. The impacts also include an estimate of the jobs supported by the economic activity above, and the earnings that accrue to workers in the project region.

**Figure 3.2: Impacts to Regional Economies**




The methodology to estimate the Impacts to Regional Economies relies on a dual approach that uses region-specific expenditure multipliers for assets located in the United States, and country-level multipliers for the rest of the countries. This approach supports the use of specific data when available and allows for comparability among the impacts estimated in the portfolio.

Table 3.3 summarizes the multiplier sources for each state and country in the asset portfolio: these are RIMS II model for the United States and OECD input-output tables for the other countries. Both are widely accepted tools in the industry and their application follows economic impact analysis approaches aligned with government agencies – for example the **Federal Highway Administration in the USA**.

**Table 3.3: Input-Output models used by country**

| No. | Input-Output model, multiplier source | Sate/Country |
|---|---|---|
| 1 | US Bureau of Economic Analysis. RIMS II for 2019 | • United States<br>– North Carolina<br>– Texas<br>– Virginia |
| 2 | OECD, Input-Output tables for 1995 – 2018 (latest release from November 2021) | • Australia<br>• Canada<br>• Colombia<br>• India<br>• Ireland<br>• Portugal<br>• Slovakia<br>• Spain<br>• United Kingdom |

The estimation of the impacts to regional economies required the following inputs on an annual basis, which have been provided by Cintra:

- Construction investment
- Capital expenditures
- Operating expenses

*Methodology*

The general approach for calculation of the impacts to regional economies is outlined below:

- Steer created baseline input output models (industry transaction matrices and multipliers) in an Excel spreadsheet tool for each country.
- All dollar amounts were converted to standard US dollars based on exchange rates from the OECD and adjusted for inflation based on OECD GDP deflators.
- All of the inputs (construction investment, capital expenditures, operating expenses) were converted to a common price base (2022 USD) to align with the model.
  - To reflect the varying timeline for specific projects, Steer adjusted the baseline estimates to reflect changes in the IO multipliers and other factors.
- The developed tool estimates the year-by-year economic output, earnings, and jobs impacts for each asset.

US projects were analyzed with state-level RIMS II multipliers from the US Bureau of Economic Analysis. The RIMS II multipliers are only available for the US and cannot be used for non-US jurisdictions. The 2019 data for RIMS II, which is the most current dataset, provides multipliers based on the 2012 Benchmark Input-Output Table for the US, which was used for this analysis.

The final impacts for the US and Non-US projects were all adjusted and standardized to 2022 USD.

The existing framework was then applied to calculate impacts for future years to 2032, using data provided by Cintra, along with OECD projections for exchange rates and GDP deflators.

## 3.5 Impacts to Travelers and Communities

The Impacts to Travelers and Communities measures the value to travelers and the communities in which Cintra's assets are located. It is standard international practice to classify these transportation impacts as follows:

- **Traveler Impacts**
  - Travel time and reliability savings
  - Vehicle operating costs adjusted on a fuel consumption basis
- **External Impacts**
  - Road safety
  - Emissions
- **Wider Economic Impacts**
  - Agglomeration (productivity)

These methods are comparable to those used by government agencies and departments in the jurisdictions included in this study, such as: **Metrolinx** (Greater Toronto and Hamilton Area), **Federal Highway Administration** (USA), and **Department of Transport** (UK).

### 3.5.1 Traveler Impacts

Traveler Impacts measure the economic value of improved consumer surplus experienced by travelers using a transportation investment – in this case, the new or improved road. Transportation investments may provide travel time and reliability savings to travelers who switch to using the investment instead of alternative routes or modes.

Now that the assets are in operation, calculating these impacts requires establishing a counterfactual (no-project) scenario, that reflects what would have happened if the project would have not been built. The Traveler Impacts are then the differential between the counterfactual and the project situation.

The Cintra road assets portfolio covers projects with different operating characteristics that require different assumptions for their counterfactual scenarios. Table 3.4 summarizes the classification of the road projects in the portfolio and their no-project situation assumptions.

**Table 3.4: Summary of counterfactual assumptions per type of road asset**

| No. | Type of asset | Counterfactual assumption | Assets |
|---|---|---|---|
| 1 | Managed lanes<br>Projects that implement tolled lanes (ML) along the same corridor.<br><br>The counterfactual alternative is the toll-free project corridor without the MLs. | Calculated 2022 no-project travel times scenario in the project corridor by simulating speed and flow in a situation where traffic evolves over time, and capacity is not increased.<br>This approach uses traffic data from before the asset was delivered to simulate what could have happened in the corridor if the project (ML) was not built. The simulations explore how traffic could have changed without the asset and the corresponding impacts on travel time and reliability on the corridor. | • NTE<br>• LBJ<br>• NTE35W<br>• I-77 |
| 2 | Urban toll road<br>Projects that span within the metropolitan area and have a non-tolled alternative in a separate route. | Calculated 2022 no-project travel times scenario in the non-tolled alternative by simulating speed and flow in a situation where traffic evolves over time and capacity is not increased.<br>This approach simulates what could have happened in the alternative if the project (Urban toll road) would have not existed.<br>The assumption uses available traffic and speed data and simulate how traffic and travel times would have evolved on the alternative road if the Urban toll road was never built. | • 407 ETR<br>• 407 Ext 1<br>• 407 Ext 2 |
| 3 | Interurban toll road<br>Projects that span across regions and have a non-tolled alternative in a separate route. | Employs 2022 observed travel times in the alternative route and compares them against the current project travel times.<br><br>This approach addresses the challenge of historic traffic data availability in the alternative route, across assets and countries. | • Autema, A66, M4-M6, M3, M8, Toowoomba, IRB Infrastructure Developers Ltd. (12 of 15 assets: Mumbai Pune, Ahmedabad Vadodara, Kaithal Rajasthan, Agra Etawah, Hapur Moradabad, Kishangarh Gulabpura, Gulabpura Chittorgarh, Udaipur Rajasthan, Palsit Dankuni, Solapur Yedeshi, Yedeshi Aurangabad, Karwar Goa Kundapur) |
| 4 | Network of roads<br>Projects that consist of a network of new or improved road infrastructure.<br>The alternative is a non-tolled option for each section of the new or improved road network. | Employs 2022 distance-weighted observed travel times in the alternative routes and compares them against the current project travel times.<br><br>This approach addresses the challenge of multiple road section changes and provides consistency in the evaluation period for the assets. | D4-R7 |

Source: Steer

Traveler Impacts for toll road investments primarily cover three effects:

- **Travel time –** The average time to use the whole asset, compared with the counterfactual situation, by time period.
- **Trip reliability –** The difference between the maximum and the average travel time to use the whole asset, compared with the counterfactual situation, by time period.
- **Vehicle operating costs –** Observed fuel and maintenance costs to use the project, compared to a no-project situation, based on distance travelled in miles.[2]

These impacts are quantified for the following travelers:

- **Travelers using the asset –** traffic data from each asset was used alongside historic data to estimate impacts.
- **Travelers using the best alternative to the asset** – project data for highways and managed lanes was used to estimate potential impacts to travelers who do not use the asset but make use of alternative roadways. Travelers on these 'alternative roadways' may benefit from reduced congestion when other travelers switch to the roadway asset.

Table 3.5 summarizes the approach used to collect the data to estimate Traveler Impacts.

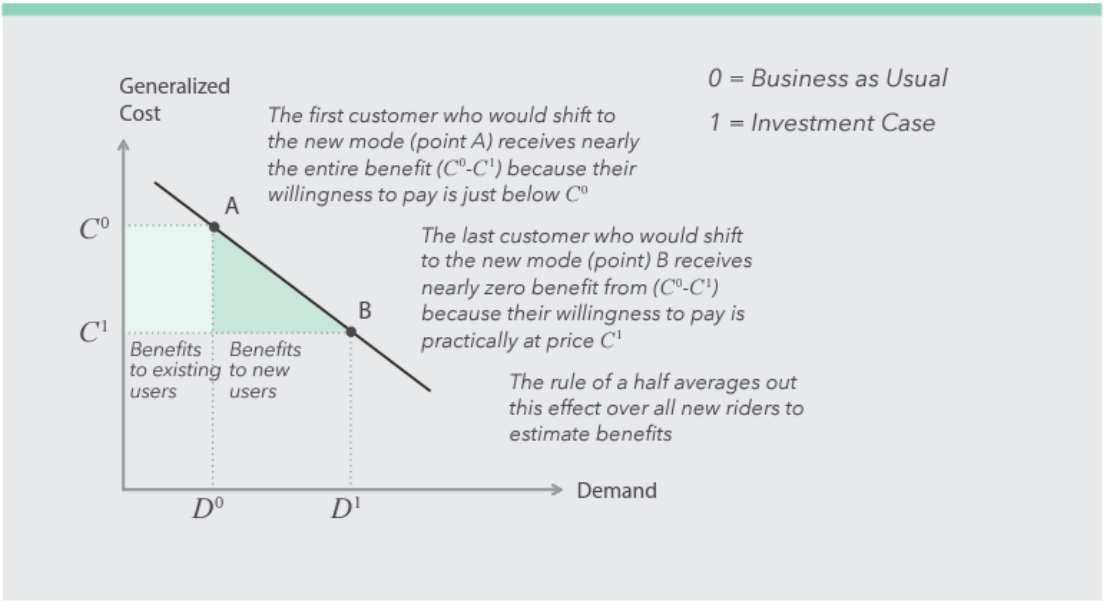
Demand included in this analysis is split into pre-existing demand and new demand. Pre-existing demand includes all trips that were made on the highway network before the asset was delivered. Some pre-existing trips switch to the asset and realize a direct benefit, while other pre-existing trips that do not use the asset could benefit from reduced congestion.

New demand, or induced demand represents trips that were not made before the asset was delivered. New demand includes two types of trips: those who used to use a non-auto mode and net new trips that were not made previously. Investment in infrastructure can generate net new trips that would not have otherwise occurred by reducing travel time or improving traveler experience. The calculation of induced demand used an elasticity-based methodology that estimates the effect of changes in travel time to additional VMT in a road asset, based in Barr (2000). The Traveler and External Impacts generated from this induced demand are applied the rule of a half approach as per standard Benefit-Cost Analysis practice (impacts are multiplied by 0.5). The rule of a half is used when a traveler changes mode or when new trips are generated. The analytical framework used in this study compares existing travel times to a 'counter factual' where the investment does not exist to estimate the impact to existing travelers (those who made trips by highway in the counter factual). However, it is unknown at what 'change in generalized cost of travel' a traveler will change behavior. The rule of a half applies a simplifying assumption that the cost-demand curve for transportation is linear. Under this assumption (a linear cost-demand curve) the rule asserts that the benefit each new traveler receives is half that of an existing traveler. This allows impacts to be estimated for new travelers without having complete

[2] Other operating costs such as tolls have been excluded from analysis. In standard Benefit-Cost Analysis these payments are considered a transfer (an example is the Australian Transport Assessment and Planning Guidance).

information on their willingness to pay and the cost at which they will change mode. This is visualized below in Figure 3.3.

**Figure 3.3: Rule of a Half for Traveler Benefit Estimation**




Source: **Metrolinx Business Case Manual Volume 2: Guidance**

**Table 3.5: Traveler Impacts calculation approach**

| Step | Description | Data Source |
|---|---|---|
| 1. Identify alternative segments | For each asset, the analysis identified the most appropriate alternative.<br>The evaluation focused on a complete trip across the project and its substitute alternative. | Geospatial process using Google maps |
| 2. Collect 2022 travel times, reliability times and distances for the project and its alternative | Using coordinates from Step 1 and a web-based mapping platform, Step 2 consisted in collecting travel times, reliability times and distances for the project and the alternative.<br>Travel time and reliability data were collected for peak and off-peak periods. | Travel times: Bing and Waze maps.<br><br>Reliability times: Google maps |
| 3. Process travel and reliability times to build the counterfactual scenarios | Data collected in Step 2 were processed and combined with historical speed and traffic data provided by Cintra to build the counterfactual scenarios described in Table 3.4. | Cintra, with analysis from Steer |
| 4. Calculate travel, reliability time savings and vehicle operating cost savings | Built an Excel tool to calculate the travel time and reliability impacts.<br>The tool also calculated vehicle operating costs changes[3], by estimating differences in total Vehicle Miles Travelled (VMT) between the project and counterfactual scenario.<br>The impacts were estimated by asset, on a yearly basis, for peak and off-peak periods. | Steer analysis |
| 5. Monetize impacts using country specific values of time and automobile operating costs parameters. | The Excel tool monetized the travel time, reliability savings[4] using a country-level value of time for light and heavy vehicles, adjusted for PPP.[5]<br><br>The tool also calculated the change in vehicle operating costs as a function of change in VMT.<br><br>Monetized impacts (in 2022 USD) were calculated by the following combination of categories:<br>• Asset<br>• Year-by-year, for every full year of operation of the asset<br>• Peak and off-peak periods<br>• Light and heavy vehicles<br>• Pre-existing and new demand | Country-level traveler and community impact guidance documentation |

[3] Vehicle operating costs were adjusted for the relationship between speed and fuel consumption using estimates from **Barth and Boriboonsomsin (2009)**. Estimates of the speed-fuel consumption curves were derived using R's Digitized package.

[4] Reliability savings are valued based on **Metrolinx Business Case Manual Volume 2: Guidance**.

[5] The analysis also accounted for the proportion of commuting and business travellers to calculate the average value of times for light vehicles.

### 3.5.2 External Impacts

The external impact category consists of the quantification of changes in road safety and emissions associated with the asset.

*Road Safety*

Collisions resulting in death or injury are typically measured on a per VMT basis. Standard Benefit-Cost Analysis practice uses a change in VMT to estimate the overall impact in these externalities that results from changes in preferred route distance, and the project accident rates, given an improved infrastructure design.

The safety methodology for North American assets has been revised from the study published in 2022 to take advantage of the availability of new traffic accident data that allows us to estimate safety impacts using a more sophisticated analysis of accident severity. This change in methodology means that the analysis more accurately reflects the costs to communities associated with collisions involving injuries and fatalities.

The road safety impacts are calculated using the following approach:

- Calculation of the project and no-project situation VMTs by the following categories:
  - Asset
  - Year-by-year
  - Peak and off-peak periods
- Calculation of accident rates for a no-project situation multiplying VMTs by a no-project accident rate.
  - The no-project accident rates were drawn from state (US) and country-level accident rates per VMT statistics available at the moment of the analysis.
- Calculation of accident rates for a project situation, multiplying VMTs by a project accident rate.
  - The project accident rates were drawn from observed historical VMT accident rates on each Cintra asset.
- Calculation of the differential of number of accidents between the no-project and project situation, using an Excel tool.
- Quantification of the road safety impacts in 2022 USD, using US Department of Transportation 2023 Benefit-Cost Analysis Guidance and the National Highway Traffic Safety Administration. The cost of fatal and injury accidents is represented by an average of the fatal and injury collision dollar values weighted by the number of fatal and injury collisions, respectively.[6]

[6] The weights are taken from the National Highway Safety Administration ***Overview of Motor Vehicle Crashes in 2020*** *report.*

*Emissions*

The estimation of emissions externalities follows the US Department of Transportation 2022 Benefit-Cost Analysis Guidance direction to consider greenhouse gases (GHGs), specifically carbon dioxide (CO2), and local air pollutants generated by road traffic (nitrogen oxides (NOx) and fine particle matter (PM2.5). The analysis excluded sulfur dioxide emissions (SO2) as there was no fully wide available statistical information on SO2 emissions per type of vehicle at a country/regional level.

The emissions methodology has been revised from the study published in 2022 to take account of speed within the calculation of emissions. Previously, our methodology relied upon emissions rates per vehicle mile traveled. This change positively affects impacts for some assets and negatively affects impacts for others. However, overall, this represents a significant improvement to accuracy of the methodology as vehicular speed is a key factor that influences level of emissions from automobile use.

The emission impacts are calculated using the following approach:

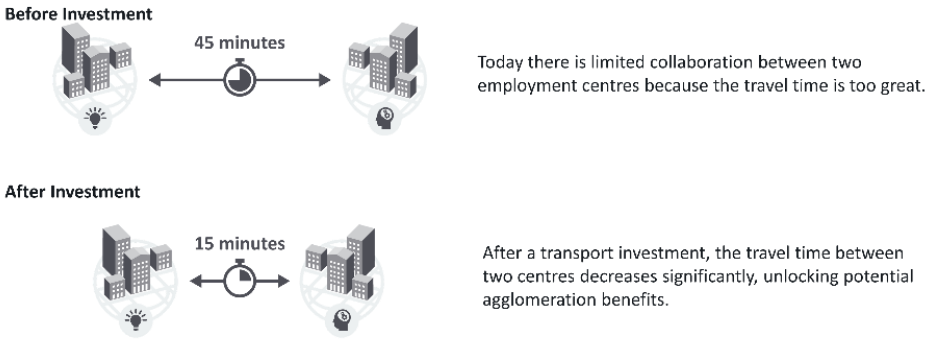
- Calculation of the project and no-project situation VMTs, by the following categories:
  - Asset
  - Year-by-year
  - Light and heavy vehicles
  - Peak and off-peak periods
  - Average vehicle speed
- Calculation of emission rates per type of pollutant for a no-project and project situation multiplying VMTs by a per mile emission rate for each pollutant.[7]
  - The polluting rates were drawn from available sources for the US (MOVES 3), Canada (ICCT), Europe (ACEA) and Australia (Australia National Transport Commission).
- Calculation of the differential emissions per pollutant between the no-project and project situation, using an Excel tool.
- Quantification of the differential emissions in 2022 USD, using a monetary value per pollutant, based in the US DOT guidance.

### 3.5.3 Wider Economic Impacts

*Agglomeration (productivity)*

In addition to Traveler and External Impacts, transportation projects can realize Wider Economic Impacts when they enable faster and more seamless travel between centers of economic activity. Specifically, agglomeration impacts refer to the gains in productivity from clustering by firms/education centers/other economic agents that is possible when travel times reduce between these centers.

[7] Vehicle emissions were adjusted for the relationship between speed and fuel consumption using estimates from **Barth and Boriboonsamson (2009)**. Estimates of the speed-fuel consumption curves were derived using R's Digitized package.




Approaches to calculate agglomeration based on empirical evidence have been set out in academic literature, including Graham et al. (2010). The typical assessment approach (applied by UK Department for Transport and other agencies) involves:

- Calculating the existing 'effective density' of a given activity center – effective density is estimated as the number of jobs accessible from that center divided by the travel time to access them, a decay parameter is used to reflect that productivity gains are not linear (job centers that are twice as far apart are likely to have less than half the productivity gains);
- Calculating a change in travel time from a proposed investment and its impact on effective density; and
- Using the change in effective density to estimate an impact on productivity based on an agglomeration elasticity (which related effective density to GDP per worker).

These impacts are accrued when transportation projects increase the spatial concentration or effective density of regions. These impacts will vary by the industry composition within the localities of the transportation project. The range of data required to estimate agglomeration for the portfolio are not available. An exploratory methodology was developed instead based on available information and peer examples. The methodology estimated agglomeration impacts by applying a 'percent uplift' to the monetized Traveler Impacts of each asset on a year-by-year basis. The agglomeration value employed s an average value between the highest and lowest agglomeration parameters from Graham (2008), of 16.5%.

**Table 3.6: Appraisal of agglomeration impacts from transport investments**

| Mode | Scheme | Agglomeration |
|---|---|---|
| Road | Leeds to Bradford Improved Highway | 21% |
| Road | Leeds Urban Area Improved Highway | 22% |
| Road | Leeds to Sheffield Improved Highway | 19% |
| Road | M6 shoulder | 12% |

Source: Graham (2008)

# 4 Results

## 4.1 Overview

This chapter presents the overall results of the Impacts to Regional Economies (section 4.2) and Impacts to Travelers and Communities (section 4.3) of Cintra's current portfolio. A more detailed asset-by-asset summary is presented in Appendix A.

## 4.2 Impacts to Regional Economies

The total Impacts on Regional Economies are presented in Table 4.1 and Figure 4.1. Estimates note that up to 31st December, 2022, Cintra's current road portfolio investment has produced a total economic output of $64.3 billion (2022 prices). This investment has also led to $15.7 billion (2022 prices) of workers earnings and 344,700 Full Time Equivalent (FTE) job-years. The Impacts to the Regional Economies in India are relatively small as they cover a single year (2022) and do not include the relatively large impacts from the construction phases of these assets that occurred before 2022.

Table 4.2 presents these results as an average annual expenditure impacts per asset, considering the years since the concession started as the base year.

Table 4.3 and Figure 4.2 present the projected Impacts to Regional Economies for the 2023-2032 period. Cintra's road portfolio investment is estimated to produce a total economic output of $13.5 billion (2022 prices). This investment also leads to $3.4 billion (2022 prices) of workers earnings and 80,600 Full Time Equivalent (FTE) job-years. This analysis assumes Cintra's continued ownership and involvement in these assets. Cintra is in the process of divesting from its Azores asset, so results are not shown for the 2023-2032 period. The full impacts of all assets were assessed and reported on regardless of the proportion of equity of those assets that belongs to Cintra.

Table 4.4 presents the projected impact results for the 2023-2032 period as an average annual expenditure impacts per asset, considering the years since the concession started as the base year.

**Table 4.1: Summary of cumulative Impacts to Regional Economies for current Cintra assets up to 2022**

| | Asset | Location | Number of years of impact to the regional economy* | Cumulative impacts up to 2022 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | NTE | TX, US | 14 | $6,200 | $1,800 | 32,000 |
| 2 | LBJ | TX, US | 13 | $7,300 | $2,100 | 37,900 |
| 3 | NTE 35W | TX, US | 10 | $5,800 | $1,700 | 30,000 |
| 4 | I-77 | NC, US | 9 | $1,800 | $530 | 10,700 |
| 5 | 407 ETR | Canada | 23 | $13,300 | $3,500 | 73,300 |
| 6 | 407 Ext 1 | Canada | 11 | $1,900 | $500 | 10,300 |
| 7 | 407 Ext 2 | Canada | 8 | $1,500 | $410 | 7,600 |
| 8 | Autema | Spain | 36 | $1,900 | $470 | 18,000 |
| 9 | A66 | Spain | 10 | $580 | $140 | 3,500 |
| 10 | Azores | Portugal | 16 | $1,500 | $240 | 14,100 |
| 11 | M4-M6 | Ireland | 20 | $1,700 | $420 | 4,400 |
| 12 | M3 | Ireland | 16 | $2,400 | $610 | 6,400 |
| 13 | M8 | UK | 7 | $780 | $180 | 3,000 |
| 14 | Toowoomba | Australia | 7 | $3,300 | $470 | 7,200 |
| 15 | I-66 | VA, US | 6 | $4,900 | $1,300 | 26,300 |
| 16 | Silvertown | UK | 3 | $1,800 | $410 | 7,000 |
| 17 | D4-R7 | Slovakia | 7 | $2,900 | $400 | 21,200 |
| 18 | Western Roads Upgrade | Australia | 4 | $2,100 | $300 | 4,600 |
| 19 | Ruta del Cacao | Colombia | 8 | $1,900 | $170 | 16,200 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 1 | $680 | $120 | 11,200 |
| | **Average** | | **7** | **$1,900** | **$460** | **10,100** |
| | **Total** | | | **$64,300** | **$15,700** | **344,700** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Table 4.2: Summary of average annual Impacts to Regional Economies for current Cintra assets up to 2022**

| | Asset | Location | Number of years of impact to the regional economy* | Average annual impacts up to 2022 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | NTE | TX, US | 14 | $440 | $130 | 2,300 |
| 2 | LBJ | TX, US | 13 | $560 | $160 | 2,900 |
| 3 | NTE 35W | TX, US | 10 | $580 | $170 | 3,000 |
| 4 | I-77 | NC, US | 9 | $210 | $60 | 1,200 |
| 5 | 407 ETR | Canada | 23 | $580 | $150 | 3,200 |
| 6 | 407 Ext 1 | Canada | 11 | $170 | $50 | 940 |
| 7 | 407 Ext 2 | Canada | 8 | $180 | $50 | 950 |
| 8 | Autema | Spain | 36 | $50 | $10 | 500 |
| 9 | A66 | Spain | 10 | $60 | $10 | 350 |
| 10 | Azores | Portugal | 16 | $100 | $20 | 880 |
| 11 | M4-M6 | Ireland | 20 | $80 | $20 | 220 |
| 12 | M3 | Ireland | 16 | $150 | $40 | 400 |
| 13 | M8 | UK | 7 | $110 | $30 | 430 |
| 14 | Toowoomba | Australia | 7 | $470 | $70 | 1,000 |
| 15 | I-66 | VA, US | 6 | $820 | $220 | 4,400 |
| 16 | Silvertown | UK | 3 | $600 | $140 | 2,300 |
| 17 | D4-R7 | Slovakia | 7 | $410 | $60 | 3,000 |
| 18 | Western Roads Upgrade | Australia | 4 | $520 | $70 | 1,100 |
| 19 | Ruta del Cacao | Colombia | 8 | $230 | $20 | 2,000 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 1 | $680 | $120 | 1,000 |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

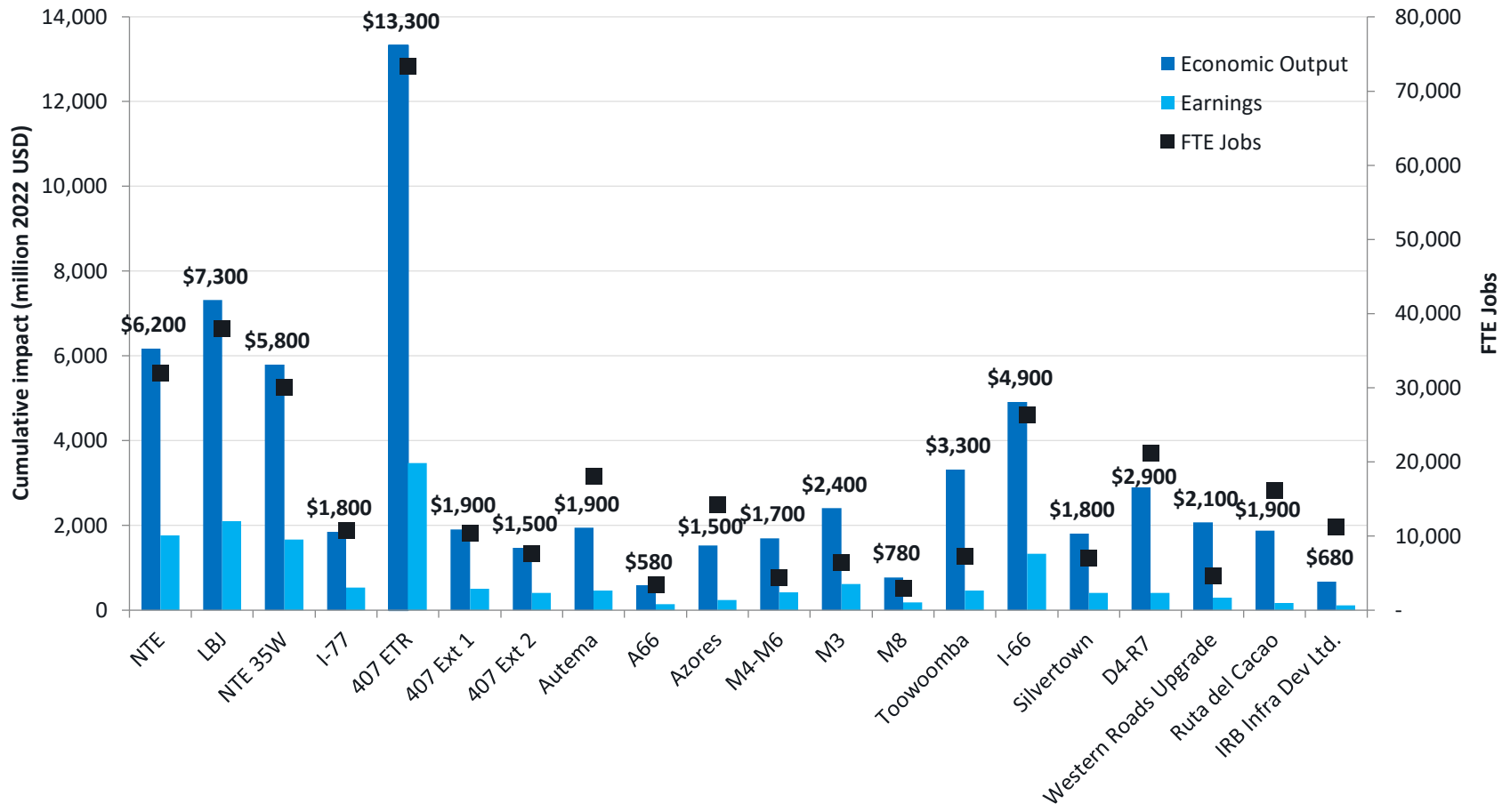
**Table 4.3: Summary of total projected Impacts to Regional Economies for current Cintra assets 2023-2032**

| | Asset | Location | Number of years of impact to the regional economy | Cumulative impacts 2023-2032 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | NTE | TX, US | 10 | $1,600 | $470 | 8,500 |
| 2 | LBJ | TX, US | 10 | $1,100 | $310 | 5,600 |
| 3 | NTE 35W | TX, US | 10 | $960 | $280 | 5,000 |
| 4 | I-77 | NC, US | 10 | $690 | $200 | 4,000 |
| 5 | 407 ETR | Canada | 10 | $3,600 | $990 | 19,500 |
| 6 | 407 Ext 1 | Canada | 10 | $150 | $40 | 820 |
| 7 | 407 Ext 2 | Canada | 10 | $100 | $30 | 560 |
| 8 | Autema | Spain | 10 | $150 | $40 | 920 |
| 9 | A66 | Spain | 10 | $80 | $20 | 480 |
| 10 | Azores | Portugal | N/A | N/A | N/A | N/A |
| 11 | M4-M6 | Ireland | 10 | $170 | $20 | 360 |
| 12 | M3 | Ireland | 10 | $210 | $30 | 440 |
| 13 | M8 | UK | 10 | $370 | $80 | 1,500 |
| 14 | Toowoomba | Australia | 10 | $300 | $60 | 990 |
| 15 | I-66 | VA, US | 10 | $920 | $250 | 4,900 |
| 16 | Silvertown | UK | 10 | $1,200 | $240 | 4,500 |
| 17 | D4-R7 | Slovakia | 10 | $170 | $20 | 1,100 |
| 18 | Western Roads Upgrade | Australia | 10 | $510 | $100 | 1,700 |
| 19 | Ruta del Cacao | Colombia | 10 | $190 | $20 | 2,200 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 10 | $1,100 | $190 | 17,600 |
| | **Average** | | **10** | **$410** | **$100** | **2,400** |
| | **Total** | | | **$13,500** | **$3,400** | **80,600** |

**Table 4.4: Summary of average annual Impacts to regional economies for current Cintra assets 2023-2032**

| | Asset | Location | Number of years of impact to the regional economy | Average annual impacts 2023-2032 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | NTE | TX, US | 10 | $160 | $50 | 850 |
| 2 | LBJ | TX, US | 10 | $110 | $30 | 560 |
| 3 | NTE 35W | TX, US | 10 | $100 | $30 | 500 |
| 4 | I-77 | NC, US | 10 | $70 | $20 | 400 |
| 5 | 407 ETR | Canada | 10 | $360 | $100 | 2,000 |
| 6 | 407 Ext 1 | Canada | 10 | $10 | $4 | 80 |
| 7 | 407 Ext 2 | Canada | 10 | $10 | $3 | 60 |
| 8 | Autema | Spain | 10 | $20 | $4 | 90 |
| 9 | A66 | Spain | 10 | $8 | $2 | 50 |
| 10 | Azores | Portugal | N/A | N/A | N/A | N/A |
| 11 | M4-M6 | Ireland | 10 | $20 | $2 | 40 |
| 12 | M3 | Ireland | 10 | $20 | $3 | 40 |
| 13 | M8 | UK | 10 | $40 | $8 | 150 |
| 14 | Toowoomba | Australia | 10 | $30 | $6 | 100 |
| 15 | I-66 | VA, US | 10 | $90 | $30 | 490 |
| 16 | Silvertown | UK | 10 | $120 | $20 | 450 |
| 17 | D4-R7 | Slovakia | 10 | $20 | $2 | 110 |
| 18 | Western Roads Upgrade | Australia | 10 | $50 | $10 | 170 |
| 19 | Ruta del Cacao | Colombia | 10 | $20 | $2 | 220 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 10 | $110 | $20 | 1,800 |

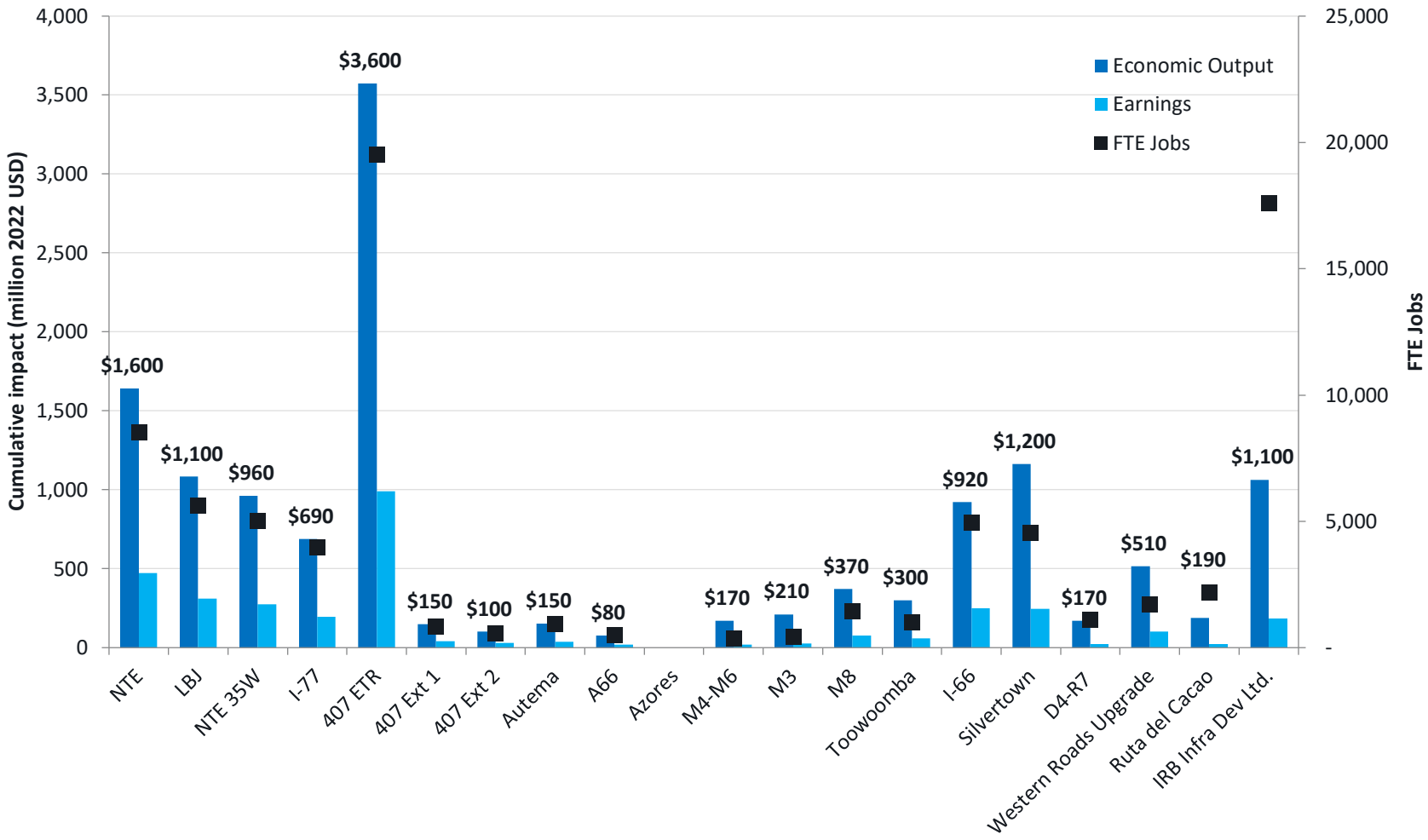
**Figure 4.1: Summary of total Impacts to Regional Economies for current Cintra assets to 2022 for all assets***




Source: Steer analysis

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Figure 4.2: Summary of total projected Impacts to Regional Economies for current Cintra assets for 2023-2032**




Source: Steer analysis

## 4.3 Impacts to Travelers and Communities

Table 4.5 and Figure 4.3 summarize the total Impacts to Travelers and Communities calculated by category and type of asset up to 2022 for currently owned assets.[8] As a total, the assets that are currently in operation have generated a total of $36.2 billion 2022 USD of impacts, where approximately 70% are Traveler Impacts (travel time, trip reliability, and vehicle operating costs). Note that it is not always the case that impacts to communities are positive, as it depends upon the effect of the asset on safety and emissions and both of which can be positive or negative.

The COVID-19 pandemic had a significant effect on the demand for travel which led to a reduction in traffic using Cintra's assets and therefore a reduction in Impacts to Travelers and Communities for 2020 and 2021.

Table 4.6 presents the Impacts to Travelers and Communities as a yearly average per asset.

Table 4.7 and Figure 4.4 present the forecast Impacts to Travelers and Communities for the 2023-2032 period. Cintra's road portfolio investment is estimated to produce a total of $55 billion 2022 USD of impact, where roughly 63% are Traveler Impacts. This analysis assumes Cintra's continued involvement with and ownership of these assets, which may change between present data and 2032. Future forecasts for the Azores asse are not shown for the 2023-2032 period because Cintra is currently divesting from it.

Table 4.8 presents the forecast Impacts to Travelers and Communities for the 2023-2032 period as a yearly average per asset. There are seven assets (Toowoomba, I-66, Silvertown, Western Roads Upgrade, and IRB Infrastructure Developers Ltd's Vadodara-Kim, Gandeva-Ena and Pathankot-Mandi) that will open for operations in the 2023-2032 period and therefore will produce Impacts to Travelers and Communities that are not included in the results of this study. Overall impact may vary based on changes in background economic conditions and traveler behavior. Assets that did not have a full year of data as of December 2022 were not included in this forecast due to data limitations. Future impact assessments may include a future forecast for these assets.

[8] At the time of completion of this report, there was no safety information available for Indian assets, so external impacts for Indian assets include only emissions.

**Table 4.5: Summary of total Impacts to Travelers and Communities to 2022 of current Cintra assets**

| | Asset | Location | Number of years of impacts to travelers and the community* | Cumulative impacts to 2022 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | NTE | TX, US | 8 | $2,800 | $1,700 | $460 | $4,900 |
| 2 | LBJ | TX, US | 7 | $1,200 | $2,000 | $210 | $3,400 |
| 3 | NTE35W | TX, US | 5 | $970 | $610 | $160 | $1,700 |
| 4 | I77 | NC, US | 3 | $280 | $540 | $50 | $860 |
| 5 | 407 ETR | Canada | 21 | $14,200 | $540 | $2,600 | $17,300 |
| 6 | 407 Ext 1 | Canada | 6 | $280 | $10 | $50 | $340 |
| 7 | 407 Ext 2 | Canada | 3 | $30 | $1 | $6 | $40 |
| 8 | Autema | Spain | 34 | $1,700 | $220 | $280 | $2,200 |
| 9 | A66 | Spain | 11 | $100 | $10 | $20 | $130 |
| 10 | Azores | Portugal | 12 | $650 | $170 | $110 | $920 |
| 11 | M4-M6 | Ireland | 17 | $540 | $190 | $110 | $850 |
| 12 | M3 | Ireland | 13 | $1,300 | $190 | $210 | $1,700 |
| 13 | M8 | UK | 4 | $310 | $(1) | $50 | $360 |
| 14 | Toowoomba | Australia | 3 | $30 | $(3) | $3 | $30 |
| 17 | D4-R7 | Slovakia | 1 | $90 | $(1) | $10 | $100 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 1 | $940 | $230 | $160 | $1,300 |
| | **Average** | | **7** | **$940** | **$240** | **$170** | **$1,300** |
| | **Total** | | | **$25,400** | **$6,400** | **$4,500** | **$36,200** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets

**Table 4.6: Summary of average yearly Impacts to Travelers and Communities to 2022 of current Cintra assets**

| | Asset | Location | Number of years of impacts to travelers and the community* | Average annual impacts to 2022 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | NTE | TX, US | 8 | $340 | $210 | $60 | $620 |
| 2 | LBJ | TX, US | 7 | $180 | $280 | $30 | $490 |
| 3 | NTE35W | TX, US | 5 | $190 | $120 | $30 | $350 |
| 4 | I77 | NC, US | 3 | $90 | $180 | $20 | $290 |
| 5 | 407 ETR | Canada | 21 | $680 | $30 | $120 | $820 |
| 6 | 407 Ext 1 | Canada | 6 | $50 | $2 | $8 | $60 |
| 7 | 407 Ext 2 | Canada | 3 | $10 | $0 | $2 | $10 |
| 8 | Autema | Spain | 34 | $50 | $6 | $8 | $60 |
| 9 | A66 | Spain | 11 | $9 | $1 | $2 | $10 |
| 10 | Azores | Portugal | 12 | $50 | $10 | $9 | $80 |
| 11 | M4-M6 | Ireland | 17 | $30 | $10 | $7 | $50 |
| 12 | M3 | Ireland | 13 | $100 | $10 | $20 | $130 |
| 13 | M8 | UK | 4 | $80 | $0 | $10 | $90 |
| 14 | Toowoomba | Australia | 3 | $9 | $(1) | $1 | $9 |
| 17 | D4-R7 | Slovakia | 1 | $90 | $(1) | $10 | $100 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 1 | $940 | $230 | $160 | $1,300 |
| | **Average** | | **7** | **$110** | **$40** | **$20** | **$170** |
| | **Total** | | | **$2,900** | **$1,100** | **$500** | **$4,500** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets

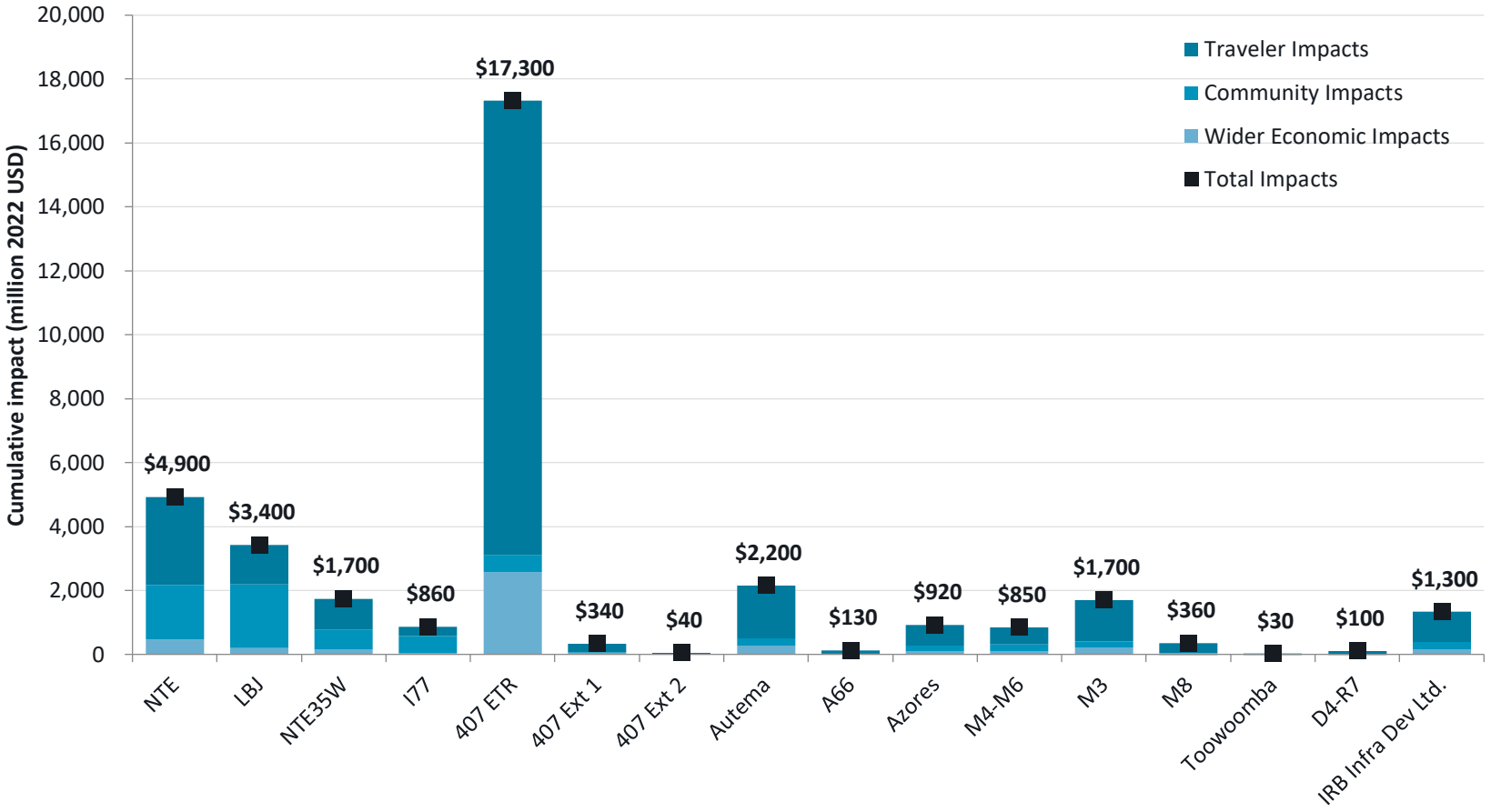
**Table 4.7: Summary of 2023-2032 projected Impacts to Travelers and Communities of current Cintra assets**

| | Asset | Location | Number of years of impacts to travelers and the community | Cumulative impacts to 2023-2032 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | NTE | TX, US | 10 | $3,600 | $2,800 | $610 | $6,900 |
| 2 | LBJ | TX, US | 10 | $860 | $3,400 | $150 | $4,400 |
| 3 | NTE35W | TX, US | 10 | $2,000 | $1,500 | $340 | $3,800 |
| 4 | I77 | NC, US | 10 | $1,300 | $2,400 | $210 | $3,900 |
| 5 | 407 ETR | Canada | 10 | $6,000 | $290 | $1,100 | $7,400 |
| 6 | 407 Ext 1 | Canada | 10 | $680 | $30 | $120 | $830 |
| 7 | 407 Ext 2 | Canada | 10 | $190 | $3 | $30 | $230 |
| 8 | Autema | Spain | 10 | $580 | $130 | $100 | $810 |
| 9 | A66 | Spain | 10 | $380 | $100 | $60 | $540 |
| 10 | Azores | Portugal | N/A | N/A | N/A | N/A | N/A |
| 11 | M4-M6 | Ireland | 10 | $530 | $180 | $90 | $800 |
| 12 | M3 | Ireland | 10 | $2,500 | $330 | $420 | $3,200 |
| 13 | M8 | UK | 10 | $970 | $40 | $170 | $1,200 |
| 14 | Toowoomba | Australia | 10 | $70 | $(12) | $10 | $60 |
| 17 | D4-R7 | Slovakia | 10 | $970 | $190 | $160 | $1,300 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 10 | $14,000 | $3,200 | $2,400 | $19,600 |
| | **Average** | | **10** | **$1,300** | **$560** | **$230** | **$2,100** |
| | **Total** | | | **$34,600** | **$14,500** | **$5,900** | **$55,000** |

**Table 4.8: Summary of 2023-2032 average annual projected Impacts to Travelers and Communities of current Cintra assets**

| | Asset | Location | Number of years of impacts to travelers and the community | Average annual impacts for 2023-2032 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | NTE | TX, US | 10 | $360 | $280 | $60 | $690 |
| 2 | LBJ | TX, US | 10 | $90 | $340 | $10 | $440 |
| 3 | NTE35W | TX, US | 10 | $200 | $150 | $30 | $380 |
| 4 | I77 | NC, US | 10 | $130 | $240 | $20 | $390 |
| 5 | 407 ETR | Canada | 10 | $600 | $30 | $110 | $740 |
| 6 | 407 Ext 1 | Canada | 10 | $70 | $3 | $10 | $80 |
| 7 | 407 Ext 2 | Canada | 10 | $20 | $0 | $3 | $20 |
| 8 | Autema | Spain | 10 | $60 | $10 | $10 | $80 |
| 9 | A66 | Spain | 10 | $40 | $10 | $6 | $50 |
| 10 | Azores | Portugal | N/A | N/A | N/A | N/A | N/A |
| 11 | M4-M6 | Ireland | 10 | $50 | $20 | $9 | $80 |
| 12 | M3 | Ireland | 10 | $250 | $30 | $40 | $320 |
| 13 | M8 | UK | 10 | $100 | $4 | $20 | $120 |
| 14 | Toowoomba | Australia | 10 | $7 | $(1) | $1 | $6 |
| 17 | D4-R7 | Slovakia | 10 | $100 | $20 | $20 | $130 |
| 20 | IRB Infrastructure Developers Ltd. (15 assets) | India | 10 | $1,400 | $320 | $240 | $2,000 |
| | **Average** | | **10** | **$130** | **$60** | **$20** | **$210** |
| | **Total** | | | **$3,500** | **$1,500** | **$590** | **$5,500** |

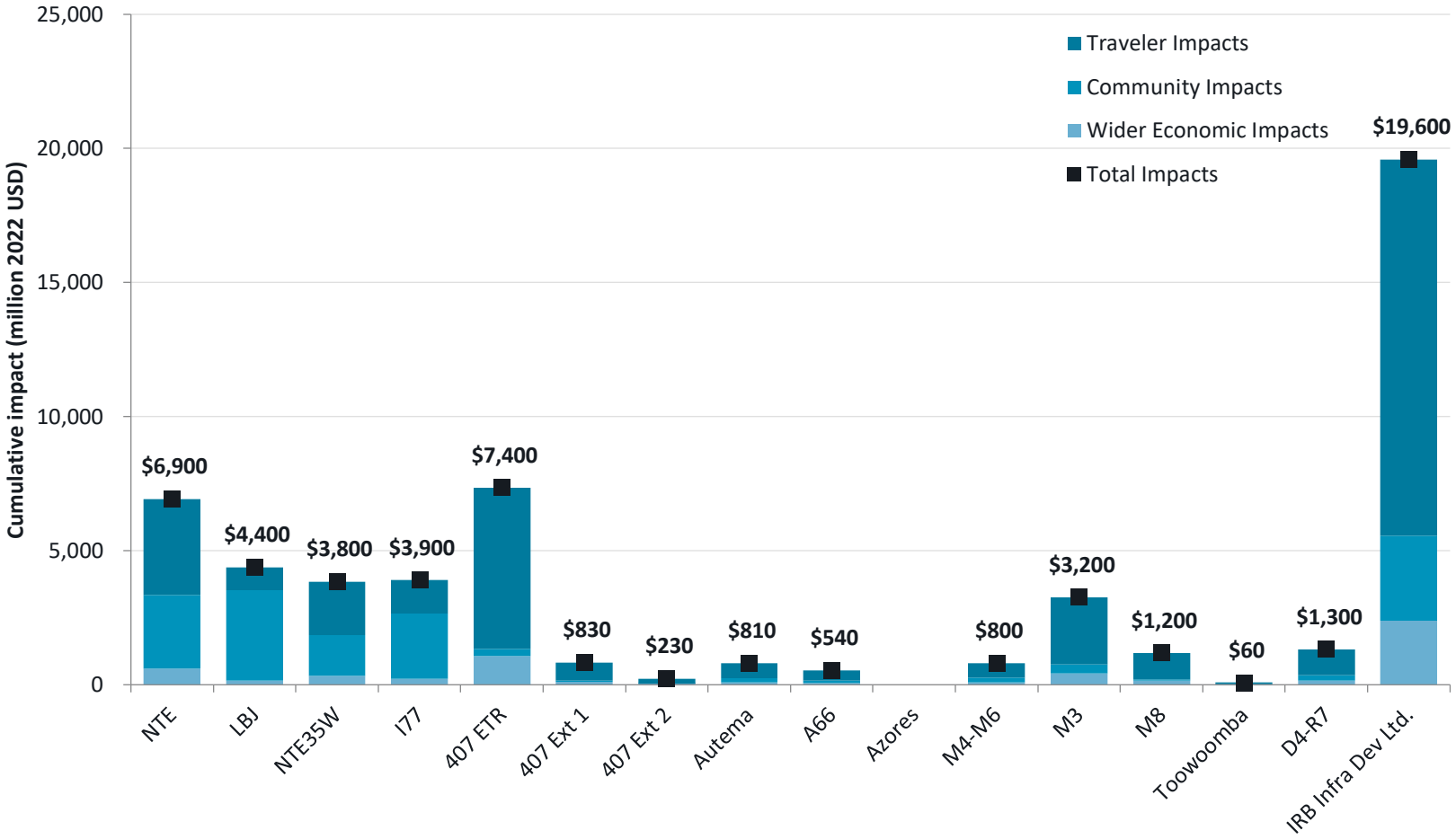
**Figure 4.3: Summary of total Impacts to Travelers and Communities of current Cintra assets to 2022***




Source: Steer analysis

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Figure 4.4: Summary of total projected Impacts to Travelers and Communities of current Cintra assets for 2023-2032**




Source: Steer analysis

# 5 Conclusions

## 5.1 Overview

This chapter presents a summary of all impacts estimated in this report – including a restatement of overall impact across the whole portfolio and by geography.

## 5.2 Overall Impact from 2023

This study conducted an analysis of 34 assets in Cintra's current portfolio of 34 assets from ten countries, with a total investment under management at 31st December, 2022 of $22.4 billion USD, excluding Indian assets. Each asset was analyzed with a consistent methodology to determine its Impacts to Travelers and the Community (changes to traveler and community value due to investment in the transportation network) and Impacts to the Regional Economy (outcomes associated with spending on infrastructure).

Estimates for Impact to Regional Economies is shown in Table 5.1, while Impact to Travelers and Communities is shown in Table 5.2.

**Table 5.1: Impact to Regional Economies**

| | Estimated Historic Performance | | | Forecast Future Performance (2023-2032) | | |
|---|---|---|---|---|---|---|
| | Economic Output (million USD) | Salary Earnings (million USD) | Employment (total FTE) | Economic Output (million USD) | Salary Earnings (million USD) | Employment (total FTE) |
| Australia | $5,400 | $770 | 11,700 | $810 | $160 | 2,700 |
| Europe | $13,600 | $2,900 | 77,600 | $2,300 | $450 | 9,300 |
| India | $680 | $120 | 11,200 | $1,100 | $190 | 17,600 |
| North America | $42,700 | $11,800 | 228,100 | $9,100 | $2,600 | 48,900 |
| South America | $1,900 | $170 | 16,200 | $190 | $20 | 2,200 |
| **Total** | **$64,300** | **$15,700** | **344,700** | **$13,500** | **$3,400** | **80,600** |

Table 5.1 notes a significant Impact to Regional Economies. This includes – an estimated $64.3 billion in economic output has been generated over the asset lifecycle through to year-end 2022. In addition, $15.7 billion in salary earnings (spread across all countries included in the study) were generated by the Cintra's current assets over their lifecycle through to year-end 2022. Over the same period, there have been an estimated 344,700 Full Time Equivalent (FTE) job-years of labor generated to construct and maintain/operate the assets. Over the 2023-2032 period, an additional $13.5 billion of economic output, $3.4 billion of salary earnings, and an estimated 80,600 Full Time Equivalent (FTE) job-years of labor are forecasted to be generated from the construction and maintenance/operations of the current portfolio.

**Table 5.2: Impacts to Travelers and Communities**

| | Estimated Historic Performance (million USD) | | | Forecast Future Performance (2023-2032) (million USD) | | |
|---|---|---|---|---|---|---|
| | Total Impacts | Impacts to Travelers | Impacts to Communities (External & Wider Economic) | Total Impacts | Impacts to Travelers | Impacts to Communities (External & Wider Economic) |
| Australia[9] | $30 | $30 | $0 | $70 | $70 | $0 |
| Europe | $6,200 | $4,600 | $1,600 | $7,900 | $5,900 | $2,000 |
| India | $1,300 | $940 | $390 | $19,600 | $14,000 | $5,600 |
| North America | $28,700 | $19,800 | $8,900 | $27,500 | $14,600 | $12,900 |
| **Total** | **$36,200** | **$25,400** | **$10,900** | **$55,000** | **$34,600** | **$20,500** |

Table 5.2 notes a range of Impact to Travelers and Communities – including $36.2 billion in value realized to date from Cintra's current assets. This includes $25.4 billion of direct Traveler Impacts (from faster and more reliable travel times), and $10.9 billion in Community Impacts, consisting of $6.4 billion in External Impacts (changes in collisions and emissions), and $4.5 billion in Wider Economic Impacts (reflecting improved productivity due to decreased travel times). The forecasts for the 2023-2032 period notes an estimated additional benefit of $55 billion, which is comprised of $34.6 billion of direct Traveler Impacts, and $20.5 billion in Community Impacts, comprised of $14.5 billion in External Impacts and $5.9 billion in Wider Economic Impacts.

*Future results for Impacts to Travelers and Communities and Impacts to Regional Economies may vary from these depending on the assets Cintra includes in its portfolio and broader economic and demographic trends.*

[9] Note – External Impacts in Australia were found to be negligible within the historic review as well as the future forecast, resulting in a rounded value of zero.

## 5.3 Variations from 2022 Study

The overall estimate for the Impact to Travelers and Communities of the portfolio has increased from $29.1 billion (2022) to $36.2 billion (2023). The Impacts to Regional Economies have grown from $60.8 billion (2022) to $64.3 billion (2023). These variations occur for the following key reasons:

- The number and types of assets included has changed alongside Cintra's commercial involvement in assets around the world.
- Changes in methodology for the estimation of External Impacts (changes in safety and emissions) has resulted in a significant increase in impacts. The revised safety methodology for North American assets uses new accident severity data and the revised emissions methodology, which is used globally, has been improved to incorporate vehicular speed. The new methodology retains a conservative and consistent basis of analysis for all assets, but more robustly captures asset performance. This has resulted in a higher overall level of impacts. For these significant changes in methodology, we have applied the change to all years in the assessment.
- Changes in asset usage and traffic – travel patterns continue to evolve alongside wider macro-economic trends. As a result, volumes and travel speeds may be different for some assets compared to the previous analysis.
- Changes in wider factors – as macro-economic changes occur, the value of impacts and level of economic impacts to regional economies can change as well, which has an impact on study results.
- Additional year of impact – because an additional year (2022) is included, accrued impacts increase.
- Change in price base of the reported results from 2021 prices to 2022 prices.

# Appendices

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# A India Results

**Table A.1: Summary of cumulative Impacts to Regional Economies for current Cintra India assets up to 2022**

| | Asset | Location | Number of years of impact to the regional economy* | Cumulative impacts up to 2022 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | Mumbai-Pune | India | 1 | $60 | $10 | 1,000 |
| 2 | Ahmedabad-Vadodara | India | 1 | $8 | $1 | 130 |
| 3 | Vadodara-Kim | India | 1 | $5 | $1 | 80 |
| 4 | Gandeva-Ena | India | 1 | $140 | $20 | 2,300 |
| 5 | Pathankot-Mandi | India | 1 | $80 | $10 | 1,400 |
| 6 | Kaithal Rajasthan | India | 1 | $4 | $1 | 70 |
| 7 | Agra-Etawah | India | 1 | $8 | $1 | 140 |
| 8 | Hapur-Moradabad | India | 1 | $40 | $7 | 610 |
| 9 | Kishangarh Gulabpura | India | 1 | $8 | $1 | 140 |
| 10 | Gulabpura Chittorgarh | India | 1 | $8 | $1 | 120 |
| 11 | Udaipur Rajasthan | India | 1 | $5 | $1 | 80 |
| 12 | Palsit Dankuni | India | 1 | $280 | $50 | 4,700 |
| 13 | Solapur Yedeshi | India | 1 | $4 | $1 | 60 |
| 14 | Yedeshi Aurangabad | India | 1 | $5 | $1 | 90 |
| 15 | Goa/Karnataka Kundapur | India | 1 | $20 | $3 | 270 |
| | **Average** | | **1** | **50** | **$8** | **750** |
| | **Total** | | | **$680** | **$120** | **11,200** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Table A.2: Summary of total projected Impacts to Regional Economies for current Cintra India assets 2023-2032**

| | Asset | Location | Number of years of impact to the regional economy* | Cumulative impacts 2023-2032 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | Mumbai-Pune | India | 10 | $80 | $10 | 1,500 |
| 2 | Ahmedabad-Vadodara | India | 10 | $40 | $8 | 730 |
| 3 | Vadodara-Kim | India | 10 | $10 | $2 | 180 |
| 4 | Gandeva-Ena | India | 10 | $140 | $20 | 2,300 |
| 5 | Pathankot-Mandi | India | 10 | $100 | $20 | 1,600 |
| 6 | Kaithal Rajasthan | India | 10 | $60 | $10 | 1,000 |
| 7 | Agra-Etawah | India | 10 | $80 | $10 | 1,200 |
| 8 | Hapur-Moradabad | India | 10 | $80 | $10 | 1,300 |
| 9 | Kishangarh Gulabpura | India | 10 | $30 | $4 | 420 |
| 10 | Gulabpura Chittorgarh | India | 10 | $50 | $9 | 840 |
| 11 | Udaipur Rajasthan | India | 10 | $100 | $20 | 1,600 |
| 12 | Palsit Dankuni | India | 10 | $220 | $40 | 3,600 |
| 13 | Solapur Yedeshi | India | 10 | $20 | $3 | 260 |
| 14 | Yedeshi Aurangabad | India | 10 | $30 | $5 | 460 |
| 15 | Goa/Karnataka Kundapur | India | 10 | $40 | $6 | 590 |
| | **Average** | | **10** | **$70** | **$10** | **1,200** |
| | **Total** | | | **$1,100** | **$190** | **17,600** |

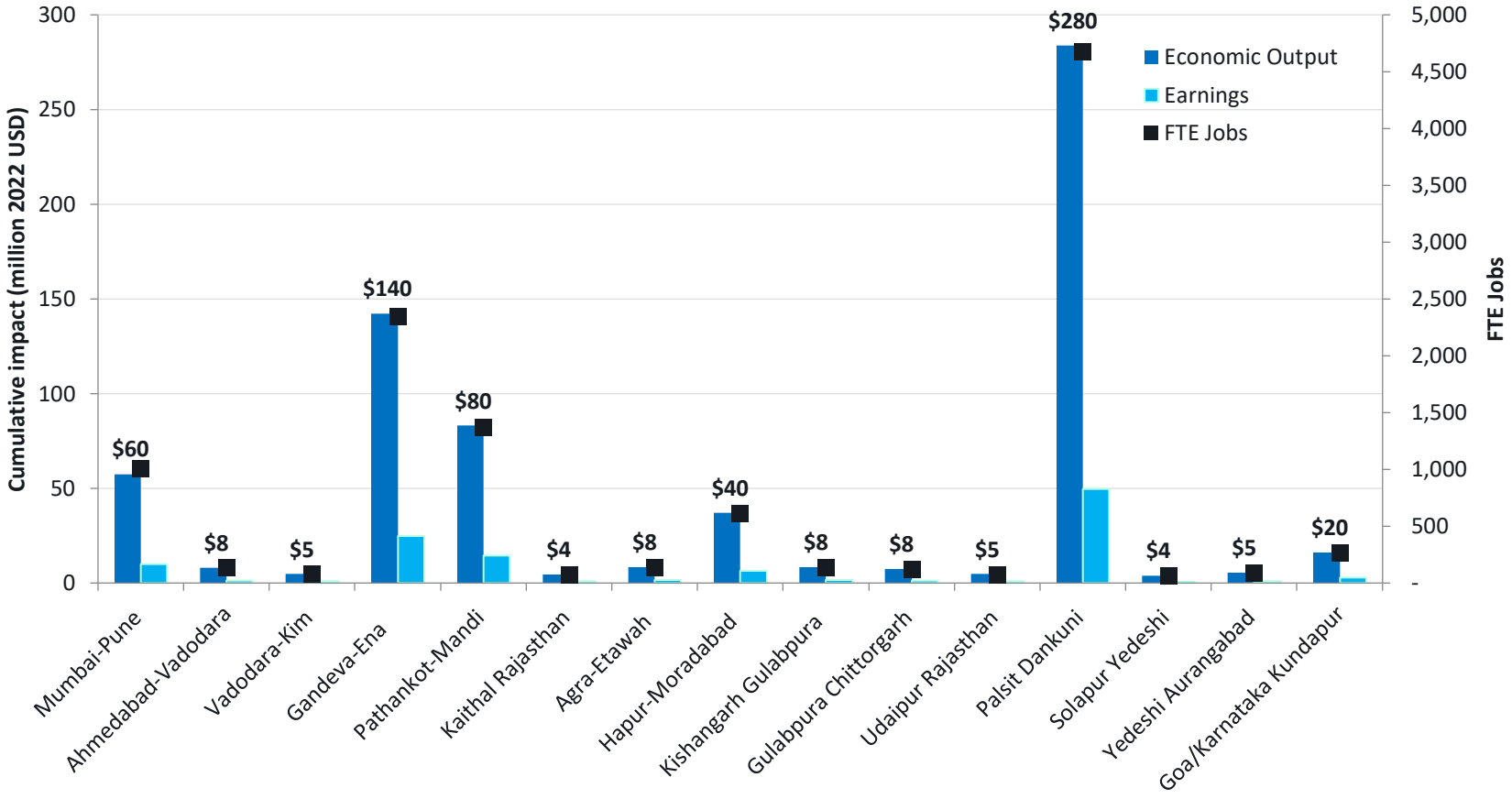
*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Table A.3: Summary of average annual Impacts to Regional Economies for current Cintra India assets 2023-2032**

| | Asset | Location | Number of years of impact to the regional economy* | Average annual impacts 2023-2032 | | |
|---|---|---|---|---|---|---|
| | | | | Economic output (Million 2022 USD) | Earnings (Million 2022 USD) | FTE Jobs (job-years) |
| 1 | Mumbai-Pune | India | 10 | $8 | $1 | 150 |
| 2 | Ahmedabad-Vadodara | India | 10 | $4 | $1 | 70 |
| 3 | Vadodara-Kim | India | 10 | $1 | $0 | 20 |
| 4 | Gandeva-Ena | India | 10 | $10 | $2 | 230 |
| 5 | Pathankot-Mandi | India | 10 | $10 | $2 | 160 |
| 6 | Kaithal Rajasthan | India | 10 | $6 | $1 | 100 |
| 7 | Agra-Etawah | India | 10 | $8 | $1 | 120 |
| 8 | Hapur-Moradabad | India | 10 | $8 | $1 | 130 |
| 9 | Kishangarh Gulabpura | India | 10 | $3 | $0 | 40 |
| 10 | Gulabpura Chittorgarh | India | 10 | $5 | $1 | 80 |
| 11 | Udaipur Rajasthan | India | 10 | $10 | $2 | 160 |
| 12 | Palsit Dankuni | India | 10 | $20 | $4 | 360 |
| 13 | Solapur Yedeshi | India | 10 | $2 | $0 | 30 |
| 14 | Yedeshi Aurangabad | India | 10 | $3 | $0 | 50 |
| 15 | Goa/Karnataka Kundapur | India | 10 | $4 | $1 | 60 |
| | **Average** | | **10** | **$10** | **$2** | **180** |
| | **Total** | | | **$110** | **$20** | **1,800** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

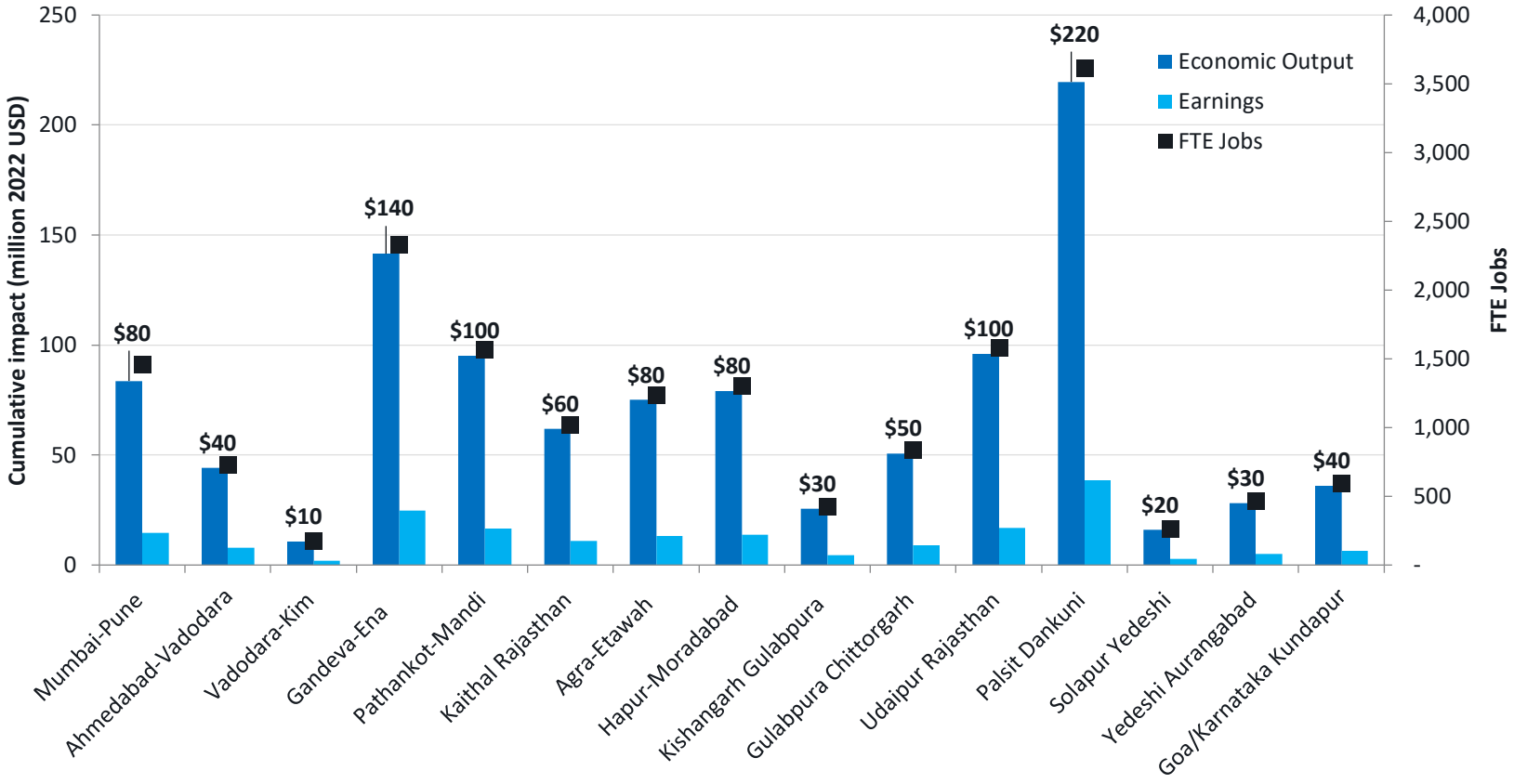
**Figure A.1: Summary of total Impacts to Regional Economies for current Cintra assets to 2022 for India***




Source: Steer analysis

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Figure A.2: Summary of total projected Impacts to Regional Economies for current Cintra assets for 2023-2032 for India***




Source: Steer analysis

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Table A.4: Summary of total Impacts to Travelers and Communities to 2022 of current Cintra India assets**

| | Asset | Location | Number of years of impacts to travelers and the community* | Cumulative impacts to 2022 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | Mumbai-Pune | India | 1 | $360 | $40 | $60 | $460 |
| 2 | Ahmedabad-Vadodara | India | 1 | $140 | $30 | $20 | $200 |
| 6 | Kaithal Rajasthan | India | 1 | $20 | $8 | $3 | $30 |
| 7 | Agra-Etawah | India | 1 | $10 | $4 | $2 | $20 |
| 8 | Hapur-Moradabad | India | 1 | $60 | $10 | $10 | $90 |
| 9 | Kishangarh Gulabpura | India | 1 | $10 | $10 | $2 | $30 |
| 10 | Gulabpura Chittorgarh | India | 1 | $60 | $20 | $10 | $90 |
| 11 | Udaipur Rajasthan | India | 1 | $7 | $10 | $1 | $20 |
| 12 | Palsit Dankuni | India | 1 | $50 | $20 | $8 | $80 |
| 13 | Solapur Yedeshi | India | 1 | $30 | $9 | $5 | $40 |
| 14 | Yedeshi Aurangabad | India | 1 | $80 | $30 | $10 | $130 |
| 15 | Goa/Karnataka Kundapur | India | 1 | $110 | $30 | $20 | $160 |
| | **Average** | | **1** | **$60** | **$15** | **$10** | **$90** |
| | **Total** | | | **$940** | **$230** | **$160** | **$1,300** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets

**Table A.5: Summary of 2023-2032 projected Impacts to Travelers and Communities of current Cintra India assets**

| | Asset | Location | Number of years of impacts to travelers and the community* | Cumulative impacts to 2023-2032 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | Mumbai-Pune | India | 10 | $5,200 | $490 | $890 | $6,600 |
| 2 | Ahmedabad-Vadodara | India | 10 | $2,300 | $480 | $380 | $3,100 |
| 6 | Kaithal Rajasthan | India | 10 | $220 | $100 | $40 | $360 |
| 7 | Agra-Etawah | India | 10 | $150 | $60 | $30 | $240 |
| 8 | Hapur-Moradabad | India | 10 | $940 | $160 | $160 | $1,300 |
| 9 | Kishangarh Gulabpura | India | 10 | $180 | $150 | $30 | $360 |
| 10 | Gulabpura Chittorgarh | India | 10 | $920 | $230 | $160 | $1,300 |
| 11 | Udaipur Rajasthan | India | 10 | $110 | $200 | $20 | $320 |
| 12 | Palsit Dankuni | India | 10 | $820 | $310 | $140 | $1,300 |
| 13 | Solapur Yedeshi | India | 10 | $400 | $130 | $70 | $590 |
| 14 | Yedeshi Aurangabad | India | 10 | $1,200 | $470 | $200 | $1,900 |
| 15 | Goa/Karnataka Kundapur | India | 10 | $1,600 | $390 | $280 | $2,300 |
| | **Average** | | **10** | **$940** | **$210** | **$160** | **$1,300** |
| | **Total** | | | **$14,000** | **$3,200** | **$2,400** | **$19,600** |

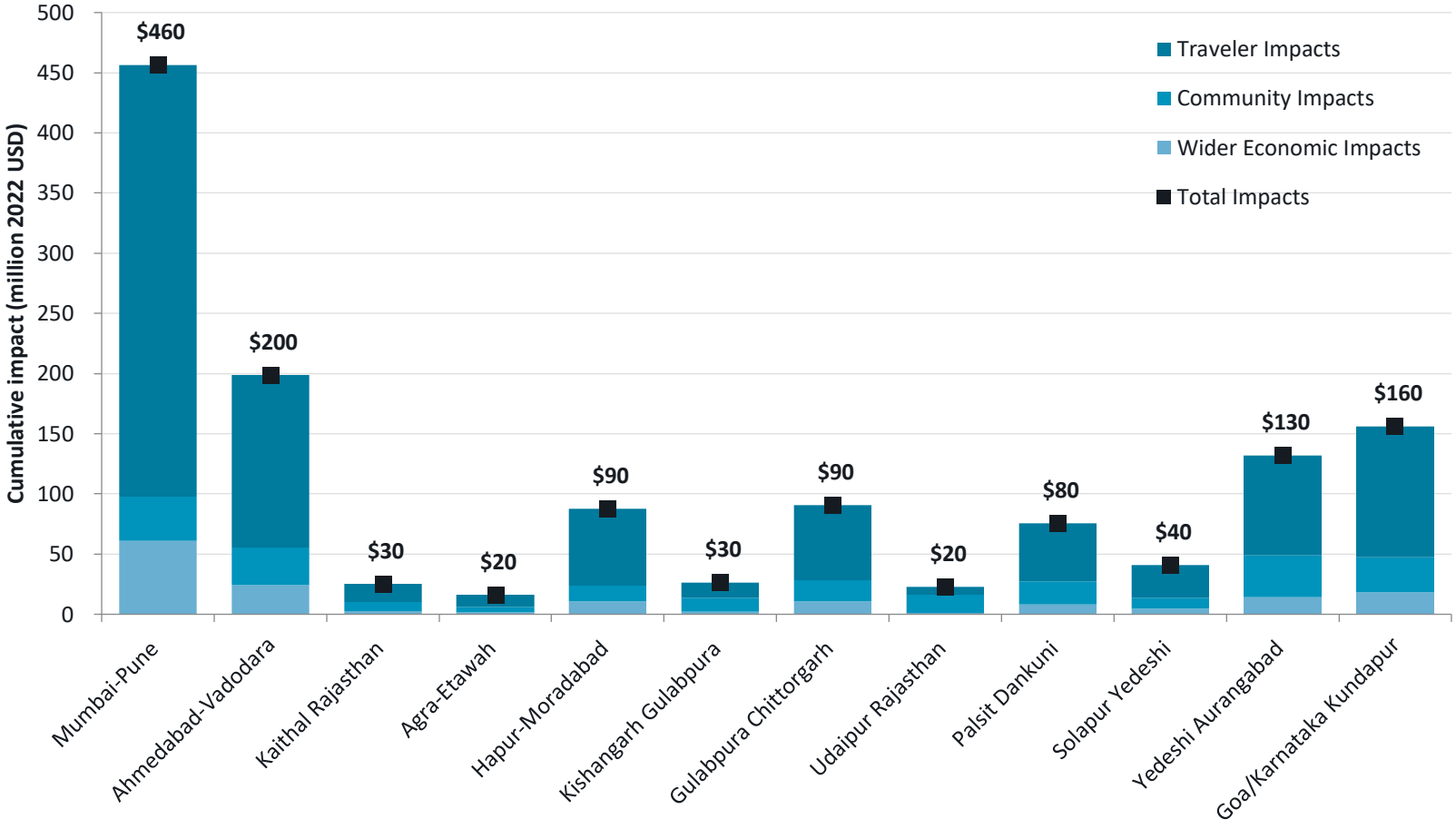
*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets

**Table A.6: Summary of 2023-2032 average annual projected Impacts to Travelers and Communities of current India Cintra assets**

| | Asset | Location | Number of years of impacts to travelers and the community* | Average annual impacts for 2023-2032 | | | |
|---|---|---|---|---|---|---|---|
| | | | | Traveler Impacts (Million 2022 USD) | External Impacts (Million 2022 USD) | Wider Econ. Impacts (Million 2022 USD) | Total (Million 2022 USD) |
| 1 | Mumbai-Pune | India | 10 | $520 | $50 | $90 | $660 |
| 2 | Ahmedabad-Vadodara | India | 10 | $230 | $50 | $40 | $310 |
| 6 | Kaithal Rajasthan | India | 10 | $20 | $10 | $4 | $40 |
| 7 | Agra-Etawah | India | 10 | $20 | $6 | $3 | $20 |
| 8 | Hapur-Moradabad | India | 10 | $90 | $20 | $20 | $130 |
| 9 | Kishangarh Gulabpura | India | 10 | $20 | $20 | $3 | $40 |
| 10 | Gulabpura Chittorgarh | India | 10 | $90 | $20 | $20 | $130 |
| 11 | Udaipur Rajasthan | India | 10 | $10 | $20 | $2 | $30 |
| 12 | Palsit Dankuni | India | 10 | $80 | $30 | $10 | $130 |
| 13 | Solapur Yedeshi | India | 10 | $40 | $10 | $7 | $60 |
| 14 | Yedeshi Aurangabad | India | 10 | $120 | $50 | $20 | $190 |
| 15 | Goa/Karnataka Kundapur | India | 10 | $160 | $40 | $30 | $230 |
| | **Average** | | **10** | **$90** | **$20** | **$20** | **$130** |
| | **Total** | | | **$1,400** | **$320** | **$240** | **$2,000** |

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets

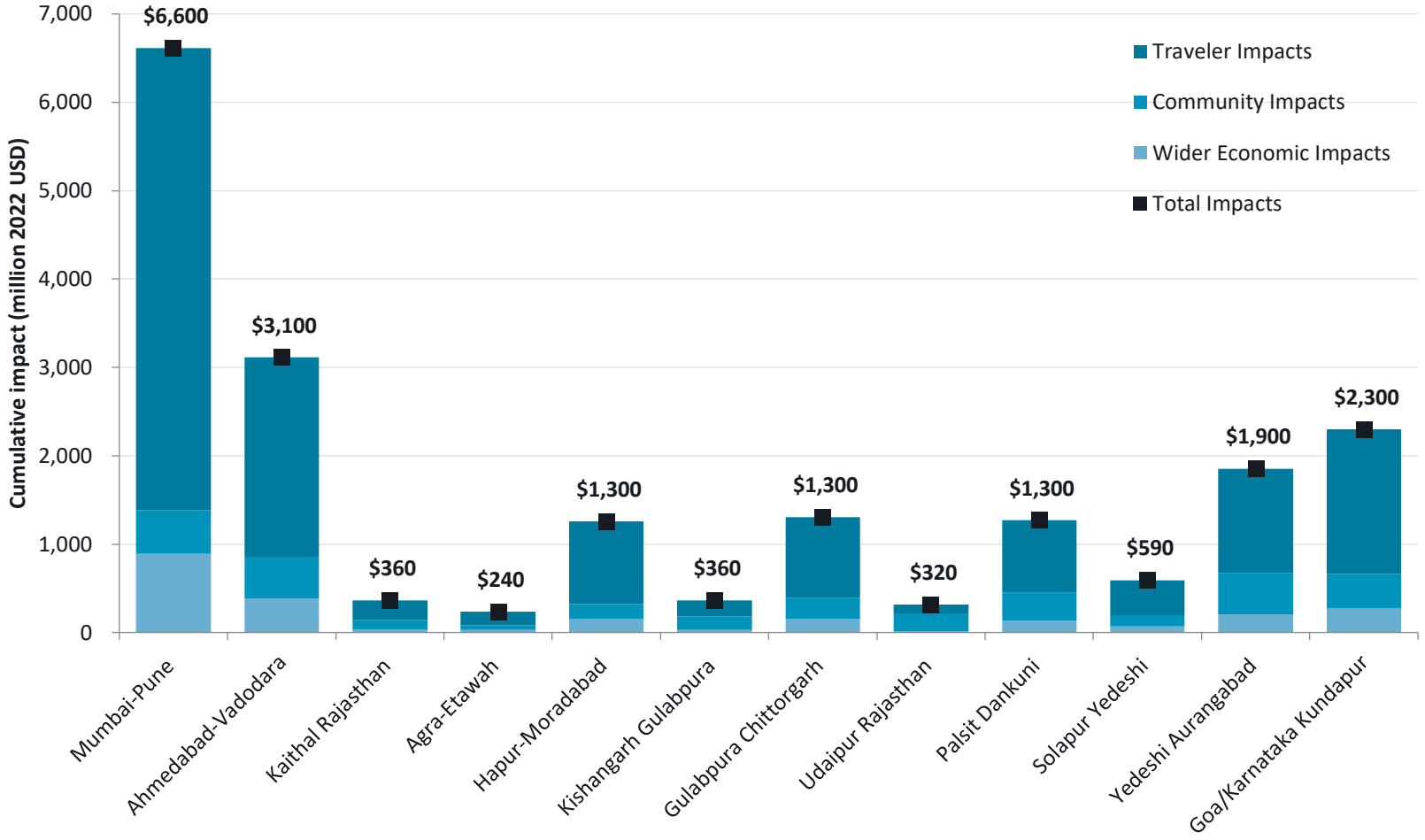
**Figure A.3: Summary of total Impacts to Travelers and Communities of current Cintra assets to 2022 for Indian assets***




Source: Steer analysis

*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

**Figure A.4: Summary of total projected Impacts to Travelers and Communities of current Cintra assets for 2023-2032 for Indian assets***




Source: Steer analysis

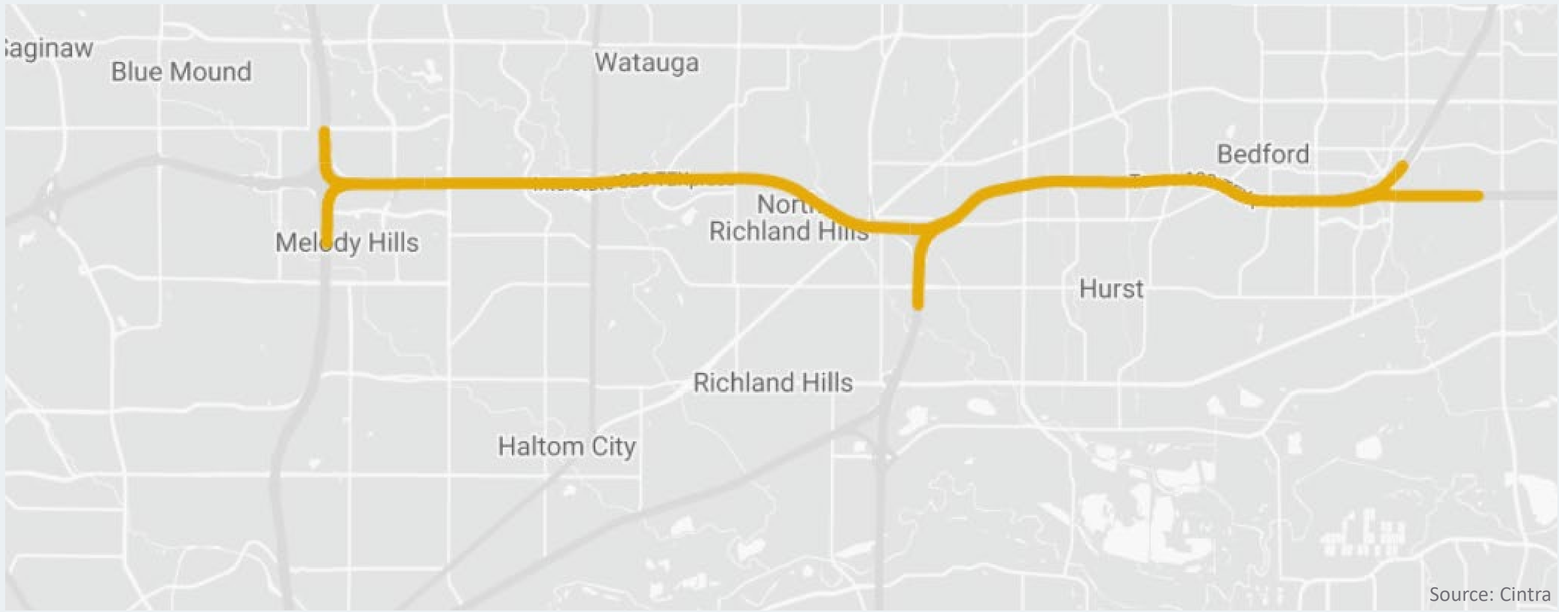
*All India assets reflect start date of Cintra's investment and not actual construction and operational period of assets.

# B Detailed Asset Results

# North Tarrant Express (NTE)

The NTE is dedicated to improving mobility along a series of highways vital to the Fort Worth region, using dynamic pricing to always ensure traffic flow.

The NTE corridor had historically been one of the most congested in the United States. Drivers have been choosing the new managed lanes since the facility opened in 2014 because it offers faster, safer and more reliable travel.




Dallas - Fort Worth, Texas, US

13 miles

**Concession:** 2009 – 2061
**Opening year**: 2014

**Impacts to the Regional Economy†**

**$6.2** billion USD to 2022*
**$1.6** billion USD 2023-2032

$6.2 billion to 2022*
$1.6 billion 2023-2032
**Economic output**

$1.8 billion to 2022*
$470 million 2023-2032
**Earnings**

32,000 to 2022*
8,500 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$4.9** billion USD to 2022*
**$6.9** billion USD 2023-2032

$2.8 billion to 2022*
$3.6 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$1.7 billion to 2022*
$2.8 billion 2023-2032
**External Impacts**
**Safety, emissions**

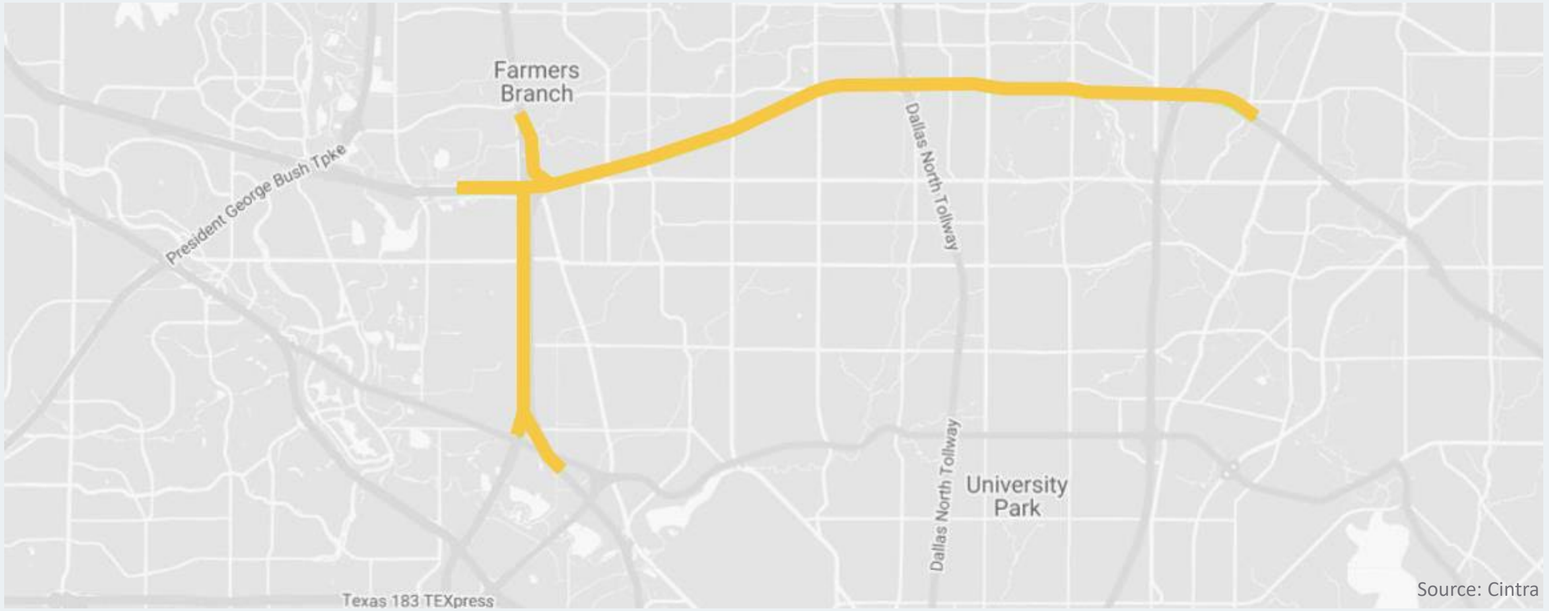
$460 million to 2022*
$610 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# LBJ

The new LBJ Express increases the driving capacity of the old LBJ. Up to six new toll lanes have been added in the I-635 section, and four on the I-35 section. This extension aims to cover the needs arising through population growth over the next 30 years.

This new infrastructure allows drivers to opt for more reliable driving times on the toll sections.




Dallas – Fort Worth, Texas, US

13 miles

**Concession:** 2009 - 2061
**Opening year**: 2015

**Impacts to the Regional Economy†**

**$7.3** billion USD to 2022*
**$1.1** billion USD 2023-2032

$7.3 billion to 2022*
$1.1 billion 2023-2032
**Economic output**

$2.1 billion to 2022*
$310 million 2023-2032
**Earnings**

37,900 to 2022*
5,600 or 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$3.4** billion USD to 2022*
**$4.4** billion USD 2023-2032

$1.2 billion to 2022*
$860 million 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$2.0 billion to 2022*
$3.4 billion 2023-2032
**External Impacts**
**Safety, emissions**

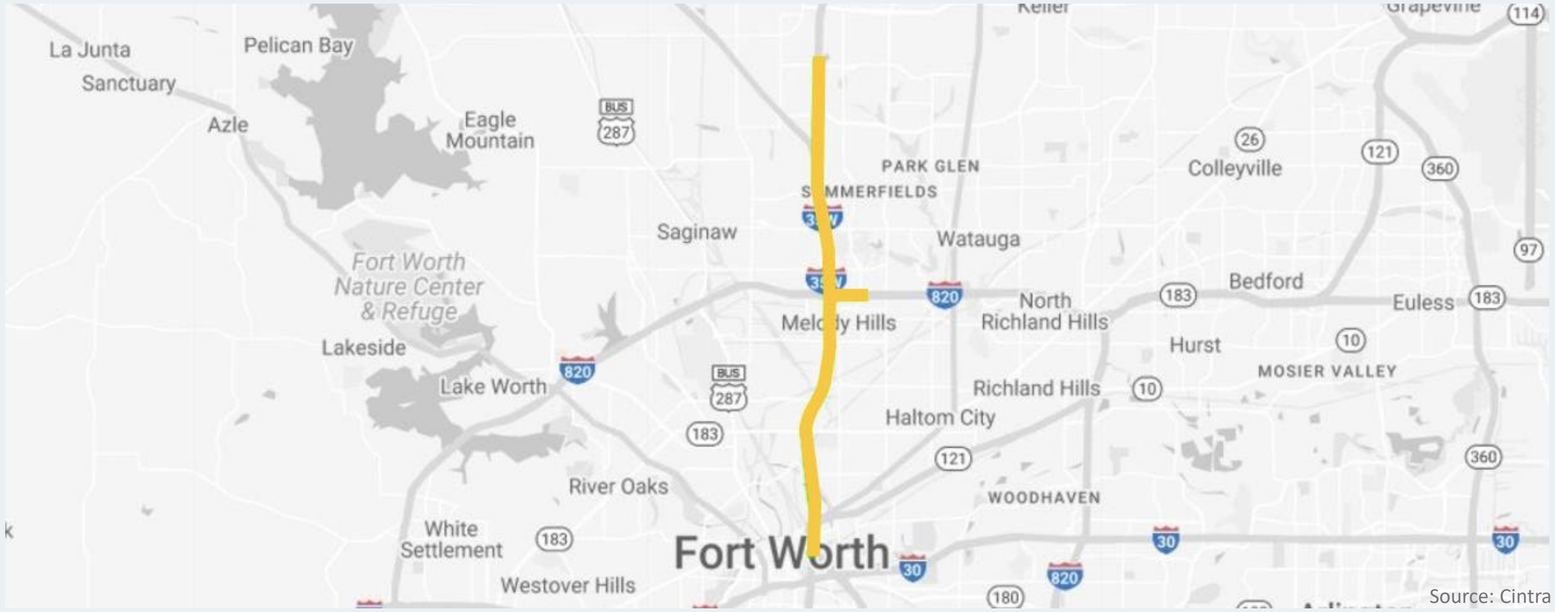
$210 million to 2022*
$150 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# NTE 35W

The project spans along I-35W, crossing through the heart of Fort Worth. The project was built in two segments.

It has improved mobility by adding additional road capacity, along with dynamic toll lanes to keep traffic moving. It also provides north Tarrant County residents with direct access to employment opportunities in Fort Worth's central shopping district.




Dallas - Fort Worth, Texas, US

17 miles

**Concession:** 2013 – 2061
**Opening year**: 2018

**Impacts to the Regional Economy†**

**$5.8** billion USD to 2022*
**$960** million USD 2023-2032

$5.8 billion to 2022*
$960 million 2023-2032
**Economic output**

$1.7 billion to 2022*
$280 million 2023-2032
**Earnings**

30,000 to 2022*
5,000 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$1.7** billion USD to 2022*
**$3.8** billion USD 2023-2032

$970 million to 2022*
$2.0 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$610 million to 2022*
$1.5 billion 2023-2032
**External Impacts**
**Safety, emissions**

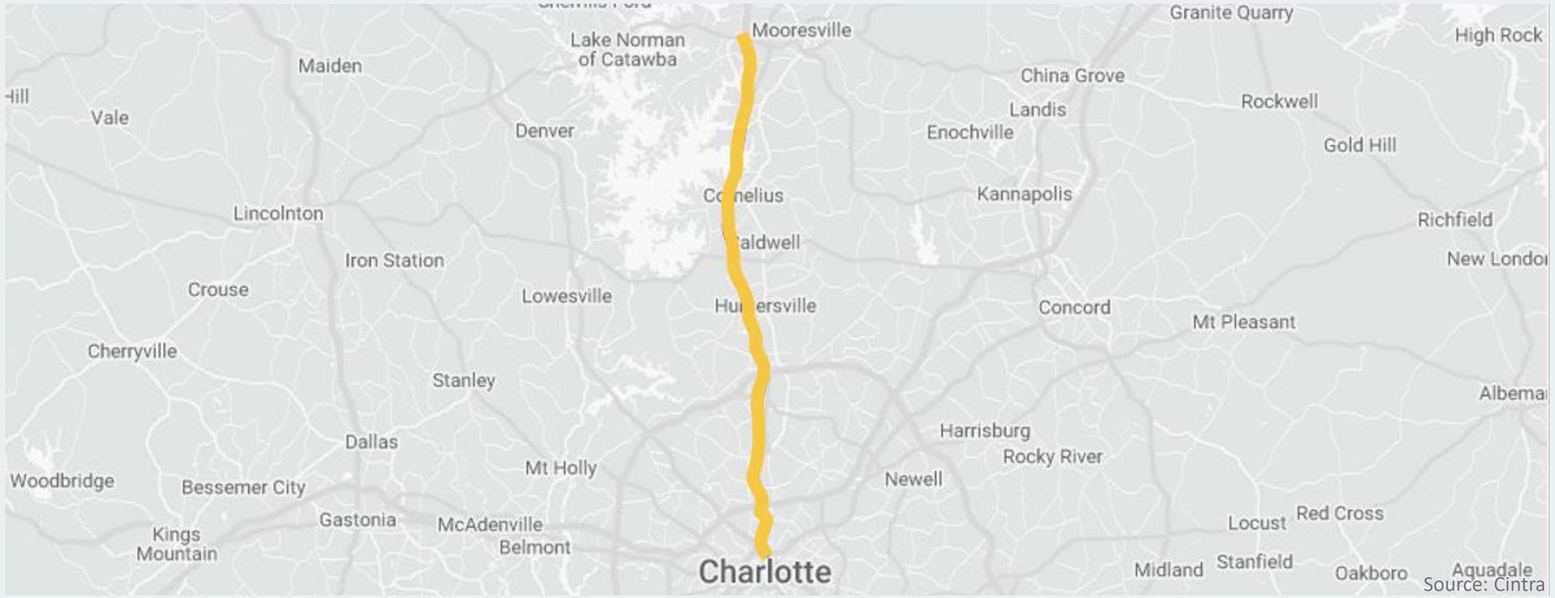
$160 million to 2022*
$340 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# I-77

The new I-77 Express Lanes provide drivers with a choice of how to travel on I-77 between Uptown Charlotte and Exit 36 in Mooresville.

The express lanes are dedicated travel lanes that will run adjacent to the existing general purpose lanes.




Charlotte, North Carolina, US

26 miles

**Concession:** 2014 - 2069
**Opening year**: 2019

## Impacts to the Regional Economy†

**$1.8** billion USD to 2022*
**$690** million USD 2023-2032

$1.8 billion to 2022*
$690 million 2023-2032
**Economic output**

$530 million to 2022*
$200 million 2023-2032
**Earnings**

10,700 to 2022*
4,000 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$860** million USD to 2022*
**$3.9** billion USD 2023-2032

$280 million to 2022*
$1.3 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$540 million to 2022*
$2.4 billion 2023-2032
**External Impacts**
**Safety, emissions**

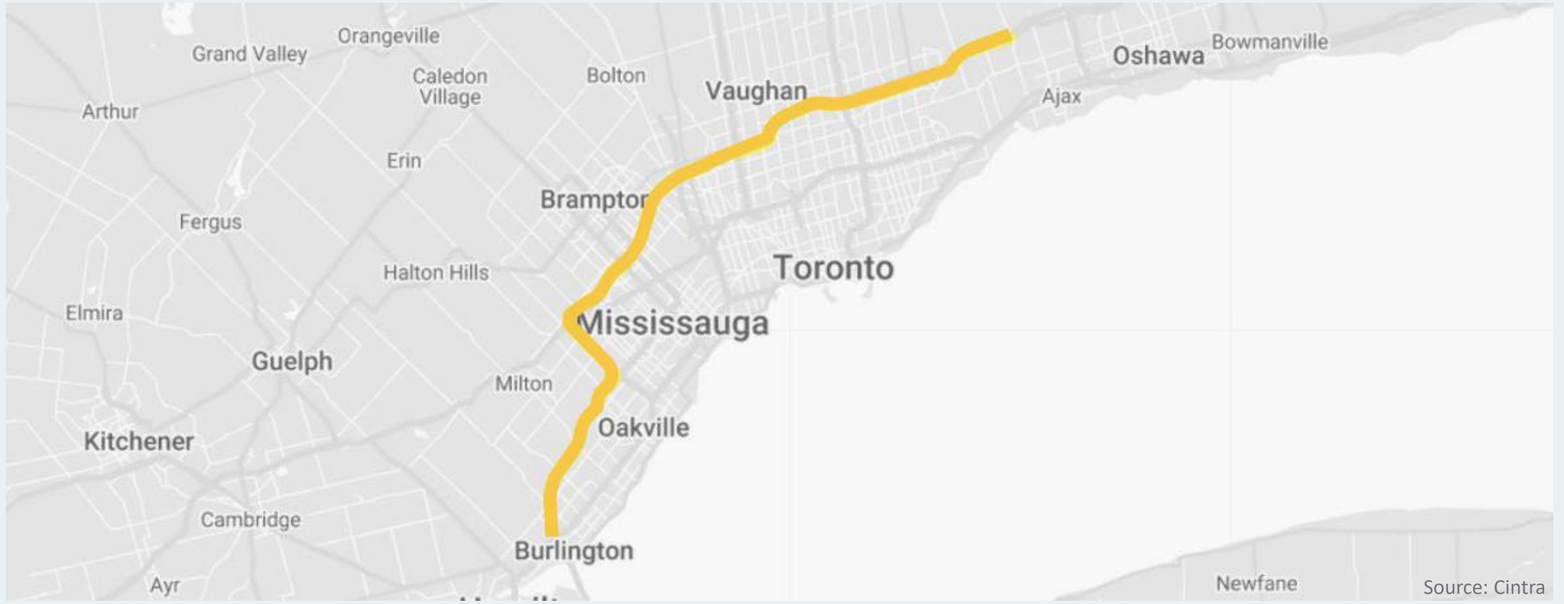
$50 million to 2022*
$210 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# 407 ETR

Highway 407 ETR was the world's first all-electronic, open-access toll highway. It's located in Toronto, Ontario, Canada, runs parallel to the 401, one of North America's most congested highways, and helps drivers reach their destinations quickly and safely.

The "free flow" tolling system detects the vehicle, calculates the route and manages billing automatically. Drivers never have to stop at a toll booth.




Ontario, Canada

67 miles

**Concession:** 1999 - 2098
**Opening year**: 1999

**Impacts to the Regional Economy†**

**$13.3** billion USD to 2022*
**$3.6** billion USD 2023-2032

$13.3 billion to 2022*
$3.6 billion 2023-2032
**Economic output**

$3.5 billion to 2022*
$990 million 2023-2032
**Earnings**

73,300 to 2022*
19,500 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$17.3** billion USD to 2022*
**$7.4** billion USD 2023-2032

$14.2 billion to 2022*
$6.0 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$540 million to 2022*
$290 million 2023-2032
**External Impacts**
**Safety, emissions**

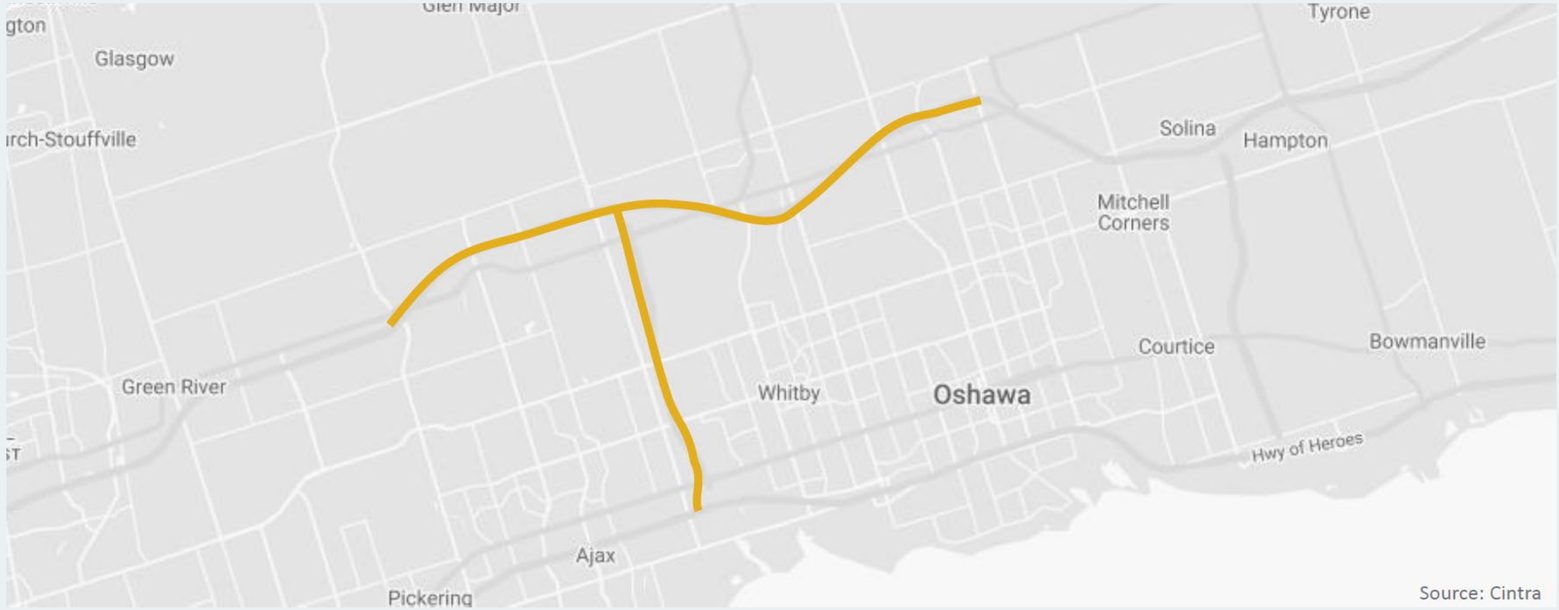
$2.6 billion to 2022*
$1.1 billion 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# 407 Ext 1

The first phase of the 407 East Extension is comprised of an extension of approximately 22 kilometers (14 miles) toward the east from Brock Road in Pickering to Harmony Road in Oshawa, in the province of Ontario.

It also includes the connection with Highway 401 road through a new 10 kilometers (6.2 miles) link located east of Lake Ridge road.




Ontario, Canada

20 miles

**Concession:** 2012 - 2045
**Opening year**: 2016

## Impacts to the Regional Economy†

**$1.9** billion USD to 2022*
**$150** million USD 2023-2032

$1.9 billion to 2022*
$150 million 2023-2032
**Economic output**

$500 million to 2022*
$40 million 2023-2032
**Earnings**

10,300 to 2022*
820 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$340** million USD to 2022*
**$830** million USD 2023-2032

$280 million to 2022*
$680 million 2023-2032
**Traveler Impacts**
Travel time, reliability, vehicle operating costs

$10 million to 2022*
$30 million 2023-2032
**External Impacts**
Safety, emissions

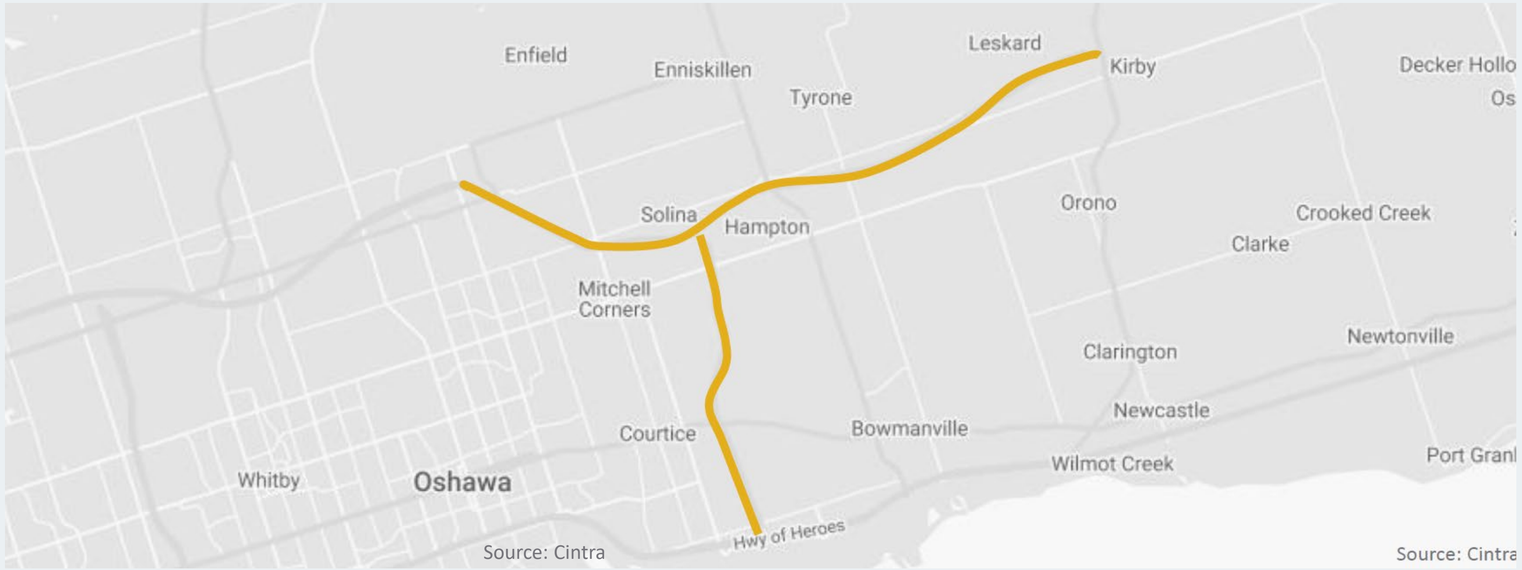
$50 million to 2022*
$120 million 2023-2032
**Wider Economic Impacts**
Agglomeration (productivity)

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# 407 Ext 2

The Highway 407 East Phase 2 project now extends Highway 407 from Oshawa to the Highway 35/115 in Clarington, ON.

It connects Highways 401 and 407 East with Highway 418. The Highway 407 East Phase 2 is a toll road and owned by the Ontario government that it is opened today.




Ontario, Canada

20 miles

**Concession:** 2015 - 2047
**Opening year**: 2019

**Impacts to the Regional Economy†**

**$1.5** billion USD to 2022*
**$100** million USD 2023-2032

$1.5 billion to 2022*
$100 million 2023-2032
**Economic output**

$410 million to 2022*
$30 million 2023-2032
**Earnings**

7,600 to 2022*
560 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$40** million USD to 2022*
**$230** million USD 2023-2032

$30 million to 2022*
$190 million 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$1 million to 2022*
$3 million 2023-2032
**External Impacts**
**Safety, emissions**

$6 million to 2022*
$30 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# Autema

The highway connects San Cugat del Vallés with Manresa, via Terrassa and Sant Vicenç de Castellet.

It interconnects various high-capacity sectors such as the AP 7 motorway, the trans-Catalonia highway C-25, the C-58 and the C-55 roadways.


Barcelona, Spain

30 miles

**Concession:** 1986 - 2036
**Opening year**: 1989

## Impacts to the Regional Economy†

**$1.9** billion USD to 2022*
**$150** million USD 2023-2032

$1.9 billion to 2022*
$150 million 2023-2032
**Economic output**

$470 million to 2022*
$40 million 2023-2032
**Earnings**

18,000 to 2022*
920 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$2.2** billion USD to 2022*
**$810** million USD 2023-2032

$1.7 billion to 2022*
$580 million 2023-2032
**Traveler Impacts**
Travel time, reliability, vehicle operating costs

$220 million to 2022*
$130 million 2023-2032
**External Impacts**
Safety, emissions

$280 million to 2022*
$100 million 2023-2032
**Wider Economic Impacts**
Agglomeration (productivity)

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# A66

The Benavente to Zamora stretch of the A-66 completes a project which and crosses the Iberian Peninsula from north to south, connecting the cities of Gijón and Seville via the west of the country.

This segment provides safer driving conditions and shorter journey times compare to its alternative.


Zamora, Spain

30 miles

**Concession:** 2012 - 2042
**Opening year**: 2015

**Impacts to the Regional Economy†**

**$580** million USD to 2022*
**$80** million USD 2023-2032

$580 million to 2022*
$80 million 2023-2032
**Economic output**

$140 million to 2022*
$20 million 2023-2032
**Earnings**

3,500 to 2022*
480 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$130** million USD to 2022*
**$540** million USD 2023-2032

$100 million to 2022*
$380 million 2023-2032
**Traveler Impacts**
Travel time, reliability, vehicle operating costs

$10 million to 2022*
$100 million 2023-2032
**External Impacts**
Safety, emissions

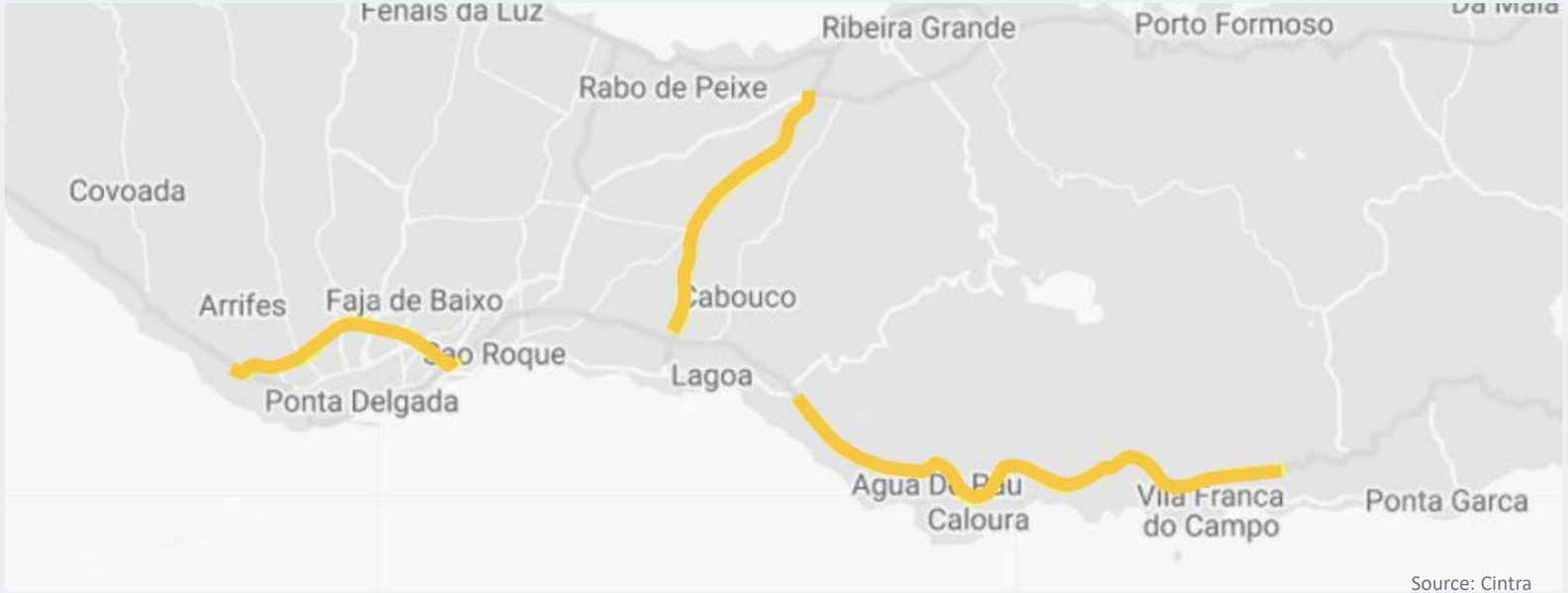
$20 million to 2022*
$60 million 2023-2032
**Wider Economic Impacts**
Agglomeration (productivity)

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# Azores

The Euroscut Açores highway is 94 km long and designed on three main axes.

The southern axis connects the airport with the south of the Island. The northern axis improves the connection between the Island's two biggest towns. The north-eastern axis improves the connection among São Miguel's Northeastern towns.




Source: Cintra

Azores, Portugal

58 miles

**Concession:** 2006 - 2022
**Opening year**: 2011

**Impacts to the Regional Economy†**

**$1.5** billion USD to 2022*

$1.5 billion to 2022*
**Economic output**

$240 million to 2022*
**Earnings**

14,100 to 2022*
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$920** million USD to 2022*

$650 million to 2022*
**Traveler Impacts**
Travel time, reliability, vehicle operating costs

$170 million to 2022*
**External Impacts**
Safety, emissions

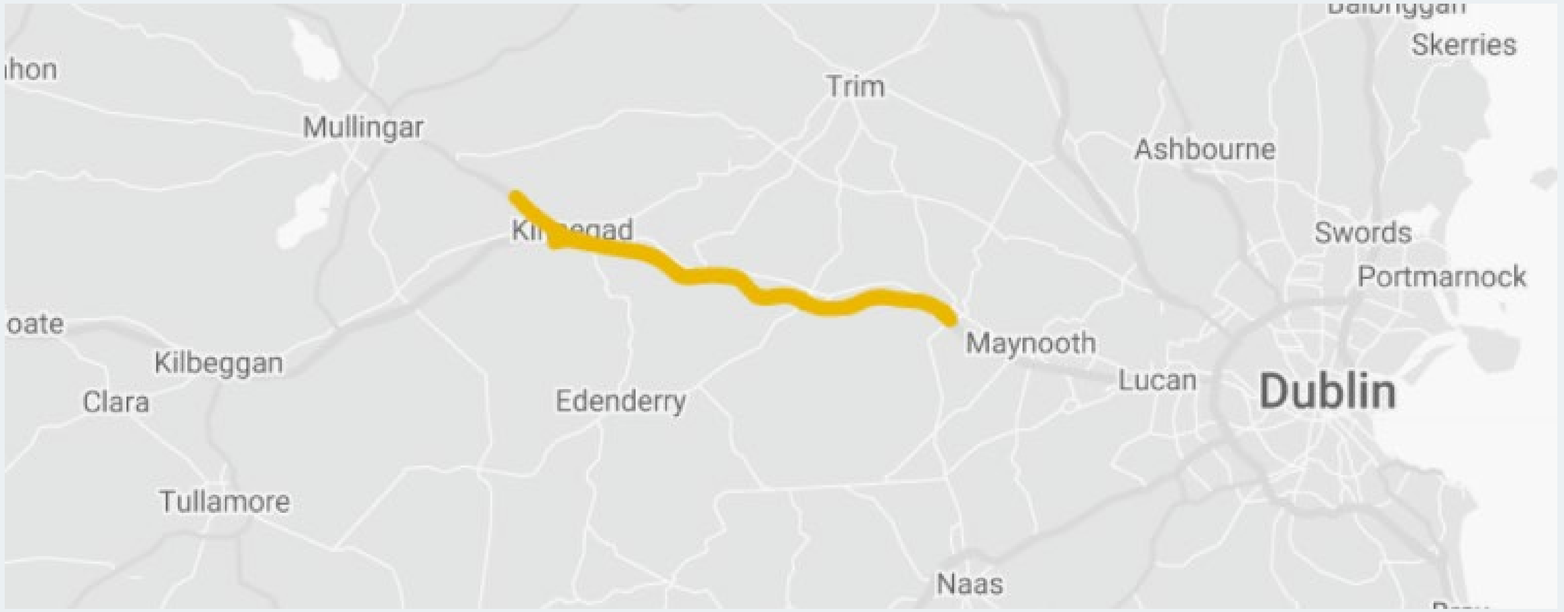
$110 million to 2022*
**Wider Economic Impacts**
Agglomeration (productivity)

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# M4-M6

The M4-M6 Kilcock-Kinnegad highway forms part of the east-west corridor, one of the busiest and most economically important roadways in Ireland.

The M4-M6 connects the cities of Dublin and Galway, and absorbs a high volume of the daily traffic between the capital and the surrounding areas.




Ireland

22 miles

**Concession:** 2003 - 2033
**Opening year**: 2005

**Impacts to the Regional Economy†**

**$1.7** billion USD to 2022*
**$170** million USD 2023-2032

$1.7 billion to 2022*
$170 million 2023-2032
**Economic output**

$420 million to 2022*
$20 million 2023-2032
**Earnings**

4,400 to 2022*
360 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$850** million USD to 2022*
**$800** million USD 2023-2032

$540 million to 2022*
$530 million 2023-2032
**Traveler Impacts**
Travel time, reliability, vehicle operating costs

$190 million to 2022*
$180 million 2023-2032
**External Impacts**
Safety, emissions

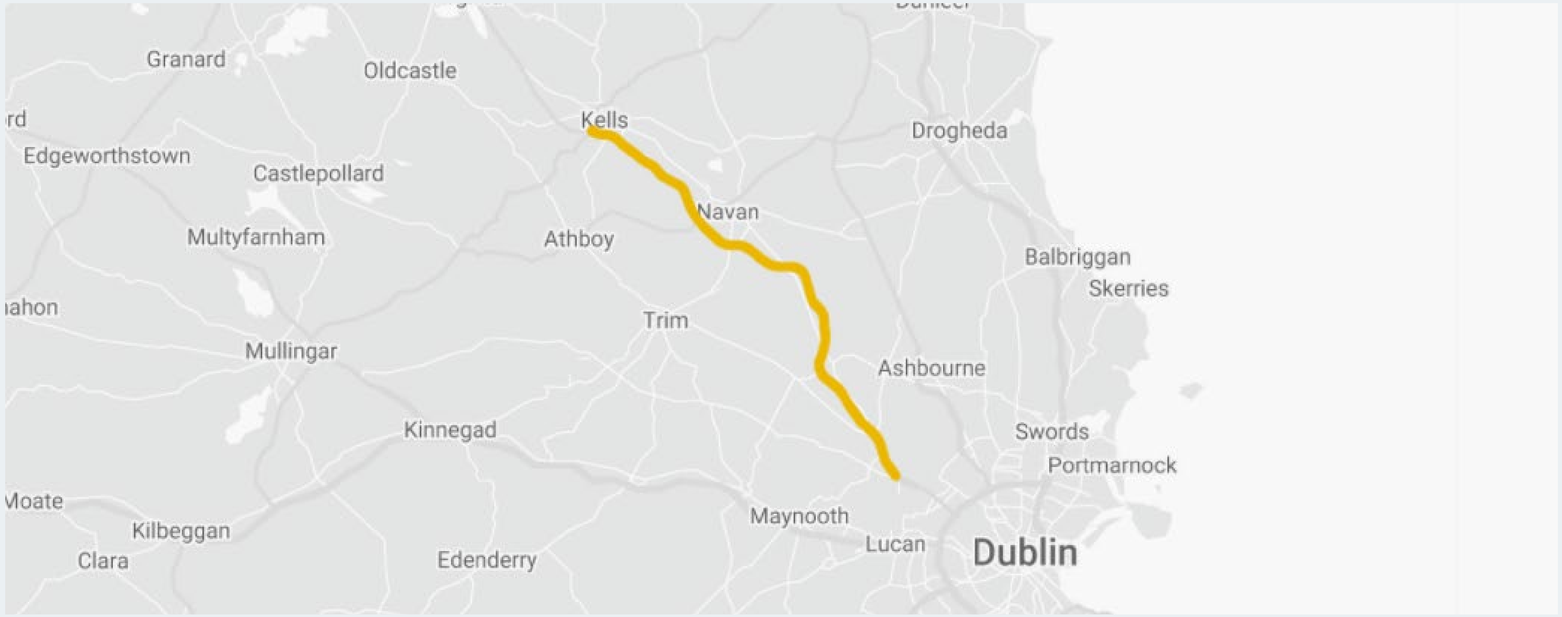
$110 million to 2022*
$90 million 2023-2032
**Wider Economic Impacts**
Agglomeration (productivity)

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# M3

The M3 provides a strategic link between Dublin and the Northeast of Ireland. It runs from Clonee to the North of Kells, northeast of Dublin.

The M3 entails significant travel time savings as well a reduction of accident rate in comparison to the old N3 road.




Ireland

31 miles

**Concession:** 2007 - 2052
**Opening year**: 2010

**Impacts to the Regional Economy†**

**$2.4** billion USD to 2022*
**$210** million USD 2023-2032

$2.4 billion to 2022*
$210 million 2023-2032
**Economic output**

$610 million to 2022*
$30 million 2023-2032
**Earnings**

6,400 to 2022*
440 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$1.7** billion USD to 2022*
**$3.2** billion USD 2023-2032

$1.3 billion to 2022*
$2.5 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$190 million to 2022*
$330 million 2023-2032
**External Impacts**
**Safety, emissions**

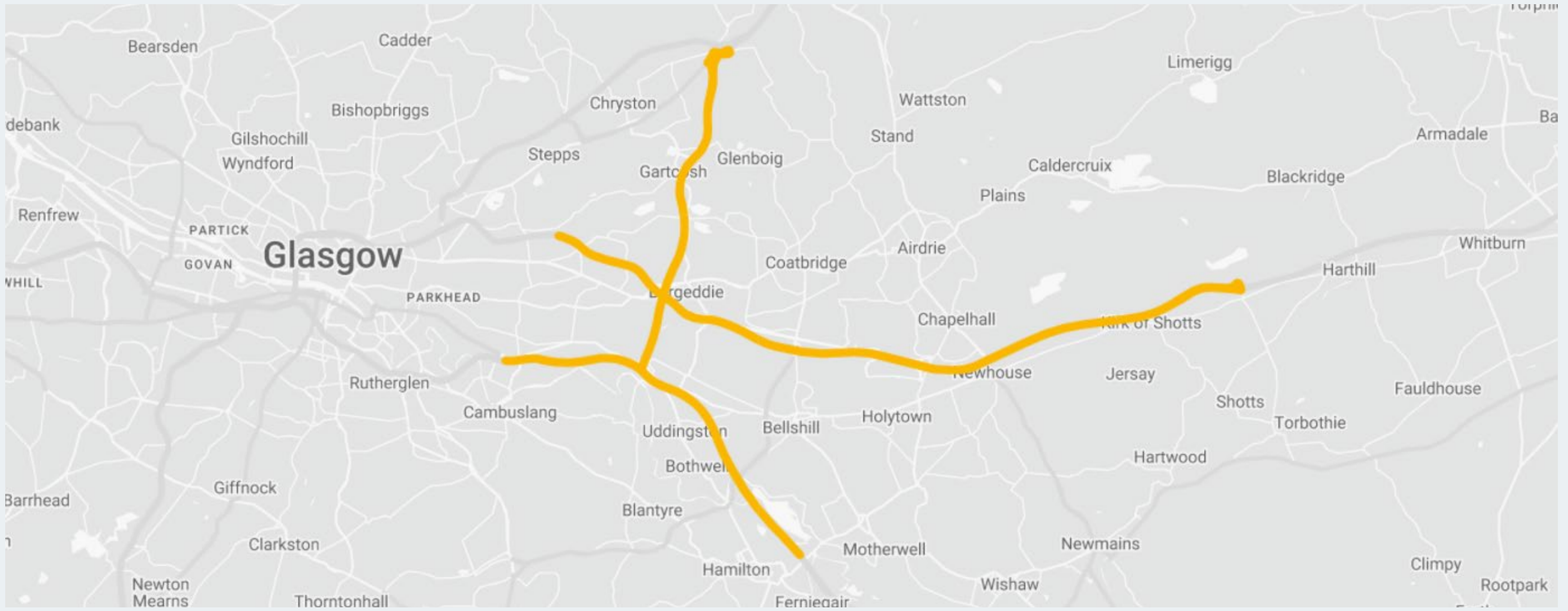
$210 million to 2022*
$420 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# M8

The Baillieston-Newhouse section of the A8 motorway – between Glasgow and Edinburgh – was converted into a multi-lane highway.

The project involved constructing over 8 miles of new highway and 10 miles of existing roadways.




Scotland, UK

18 miles

**Concession:** 2014 - 2047
**Opening year**: 2019

## Impacts to the Regional Economy†

**$780** million USD to 2022*
**$370** million USD 2023-2032

$780 million to 2022*
$370 million 2023-2032
**Economic output**

$180 million to 2022*
$80 million 2023-2032
**Earnings**

3,000 to 2022*
1,500 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$360** million USD to 2022*
**$1.2** billion USD 2023-2032

$310 million to 2022*
$970 million 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

-$1 million to 2022*
$40 million 2023-2032
**External Impacts**
**Safety, emissions**

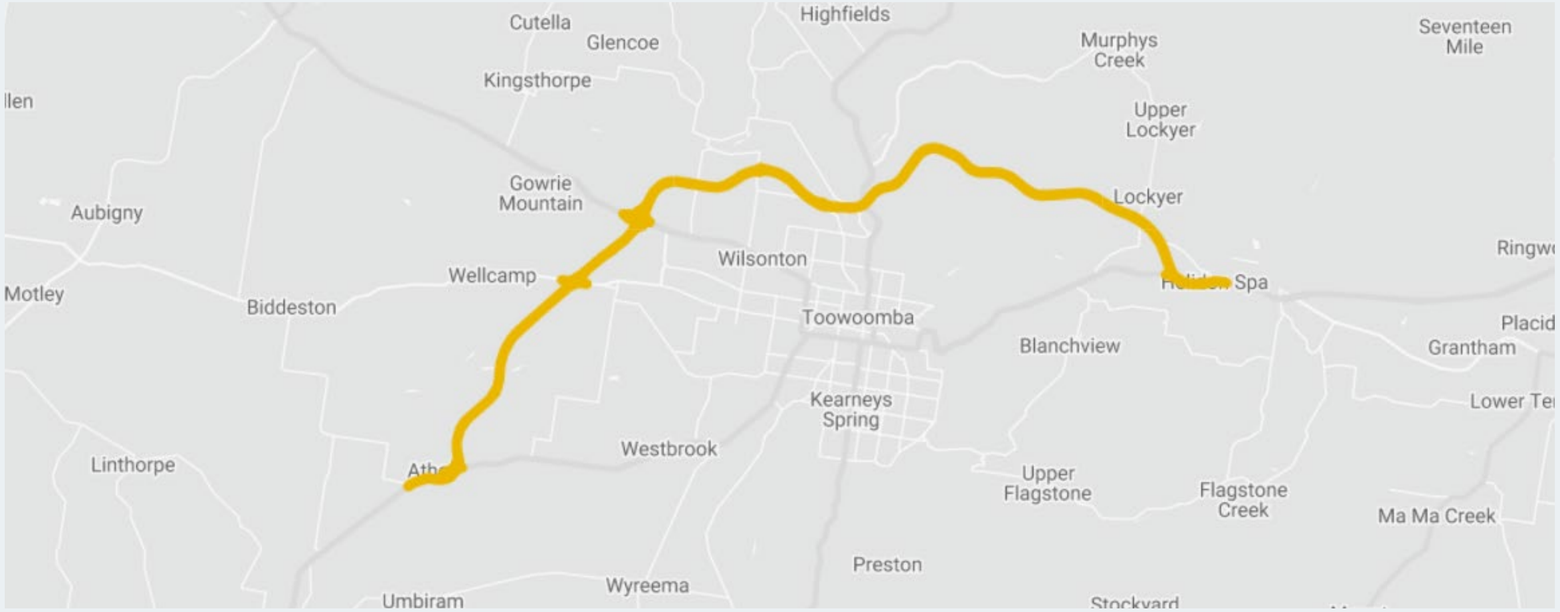
$50 million to 2022*
$170 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values
Negative value for External Impacts due to emissions

# Toowoomba

The project consists of a 25 mile bypass route to the north of Toowoomba, significantly improving driver safety and journey time reliability by removing heavy vehicles from the central business district of Australia's second largest inland city.

The project has delivered long-term benefits to Queensland and provided a safer, faster link southeast to Brisbane.




Toowoomba, Australia

25 miles

**Concession:** 25 years
**Opening year**: 2019

## Impacts to the Regional Economy†

**$3.3** billion USD to 2022*
**$300** million USD 2023-2032

$3.3 billion to 2022*
$300 million 2023-2032
**Economic output**

$470 million to 2022*
$60 million 2023-2032
**Earnings**

7,200 to 2022*
990 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$30** million USD to 2022*
**$60** million USD 2023-2032

$30 million to 2022*
$70 million 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

-$3 million to 2022*
-$12 million 2023-2032
**External Impacts**
**Safety, emissions**

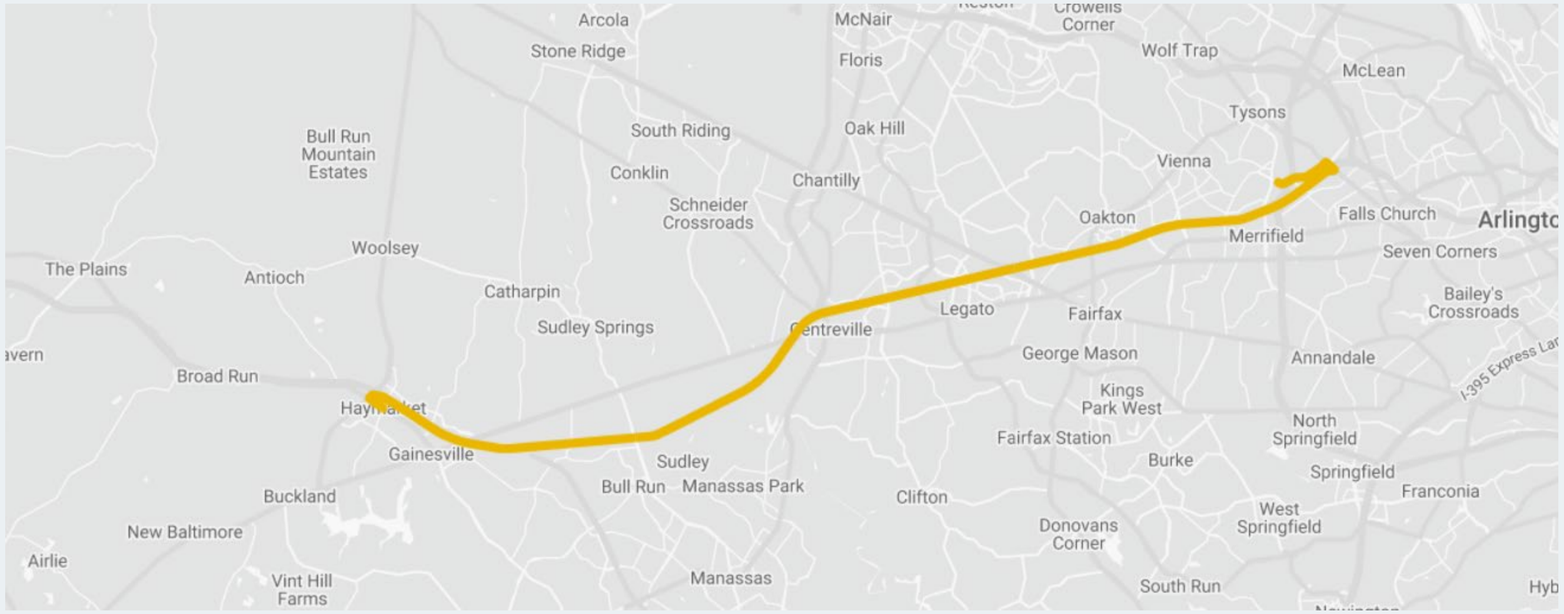
$3 million to 2022*
$10 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values
Negative value for External Impacts due to emissions

# I-66

I-66 will be expanded – from the Capital Beltway (I-495) to Gainesville (US Route 29) – to include three toll-free general purpose lanes and two Express Lanes in each direction with a state-of-the-art open-road electronic toll collection system.

Expanded transit service, park-and-ride lots, and interchange enhancements will further improve travel along I-66.




Fairfax, Virginia

23 miles

**Concession:** 2016 - 2066
**Opening year**: 2022

**Impacts to the Regional Economy†**

**$4.9** billion USD to 2022*
**$920** million USD 2023-2032

$4.9 billion to 2022*
$920 million 2023-2032
**Economic output**

$1.3 billion to 2022*
$250 million 2023-2032
**Earnings**

26,300 to 2022*
4,900 for 2023-2032
**FTE jobs‡**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# Silvertown Tunnel

The design includes a 0.9 mile twin-bore road tunnel under the River Thames as well as 0.4 miles of access ramps.

It will connect south of the River Thames with the access to the existing Blackwall Tunnel and north of the River Thames with the Tidal Basin Roundabout, in Silvertown, easing traffic congestion in this key London location.


Source: Cintra

London, UK

0.9 miles

**Concession:** 2019 – 2050
**Opening Year:** 2025

**Impacts to the Regional Economy†**

**$1.8** billion USD to 2022*
**$1.2** billion USD 2023-2032

$1.8 billion to 2022*
$1.2 billion 2023-2032
**Economic output**

$410 million to 2022*
$240 million 2023-2032
**Earnings**

7,000 to 2022*
4,500 for 2023-2032
**FTE jobs‡**

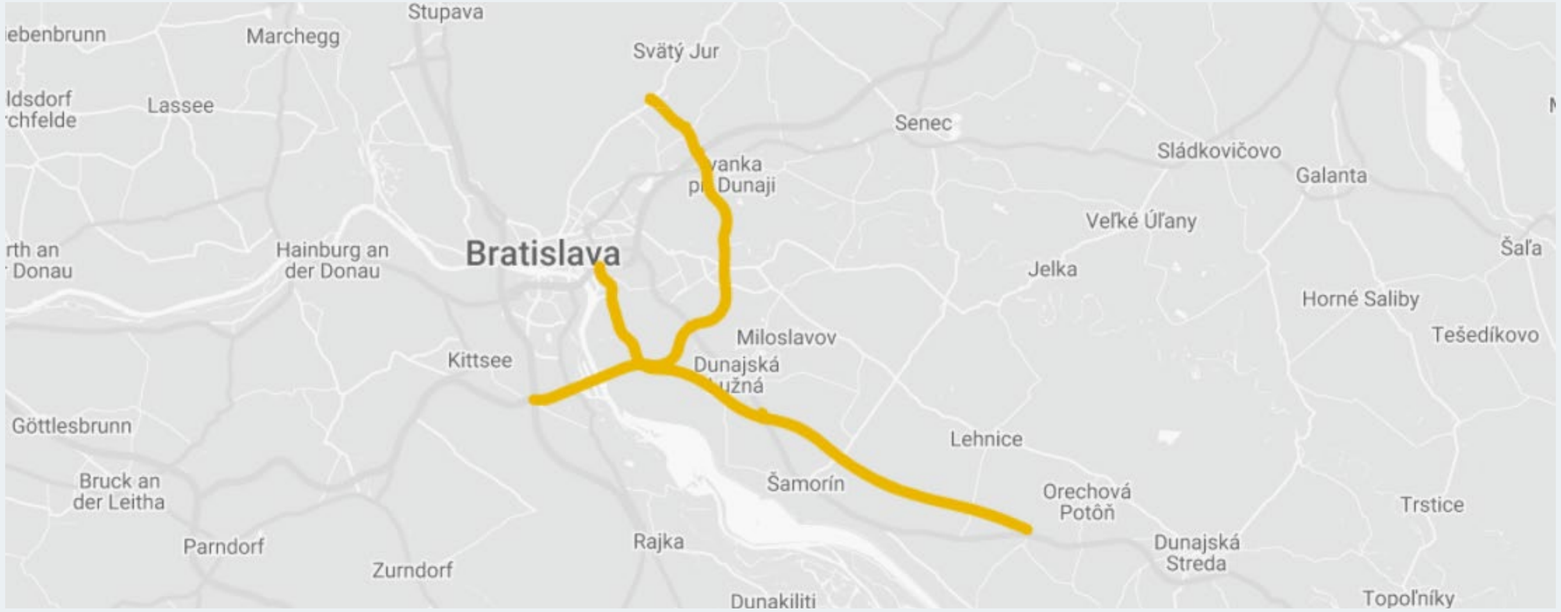
* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# D4-R7

The design includes construction of a new highway, the 17 mile D4 with two lanes each way. It goes around Bratislava and features 9 junctions and 58 structures.

It also includes construction of a new radial highway, the 20 mile R7.

D4-R7 will help redirect traffic to Austria and Hungary that currently travels on the D1 through urban areas.




Bratislava, Slovakia

37 miles

**Concession:** 2016 - 2050
**Opening year**: 2021

## Impacts to the Regional Economy†

**$2.9** billion USD to 2022*
**$170** million USD 2023-2032

$2.9 billion to 2022*
$170 million 2023-2032
**Economic output**

$400 million to 2022*
$20 million 2023-2032
**Earnings**

21,200 to 2022*
1,100 for 2023-2032
**FTE jobs‡**

## Impacts to Travelers and Communities†

**$100** million USD to 2022*
**$1.3** billion USD 2023-2032

$90 million to 2022*
$970 million 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

-$1 million to 2022*
$190 million 2023-2032
**External Impacts**
**Safety, emissions**

$10 million to 2022*
$160 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values
Negative value for External Impacts due to emissions

# Western Roads Upgrade

The Western Roads Upgrade project includes 8 high-priority road upgrades, road widenings, intersection upgrades, almost 19 miles of duplicated road and over 149 miles of road rehabilitation and maintenance.

The project will help to support the rapid population growth in Melbourne's west, create jobs for local workers, and provide less congestion on the roads.


Melbourne, Australia

149 miles

**Concession:** 2018 - 2040
**Opening year**: 2020

**Impacts to the Regional Economy†**

**$2.1** billion USD to 2022*
**$510** million USD 2023-2032

$2.1 billion to 2022*
$510 million 2023-2032
**Economic output**

$300 million to 2022*
$100 million 2023-2032
**Earnings**

4,600 to 2022*
1,700 for 2023-2032
**FTE jobs‡**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# Ruta del Cacao

Ruta del Cacao connects the cities of Bcaramanga, capital of the region, and Barrancabermeja, on the banks of the Magdalena River.

This infrastructure shortens the distance between these two cities, overcoming geological problems and becoming a strategic corridor for transportation in the east of the country.


Barrancabermeja, Colombia

94 miles

**Concession:** 2015 - 2040
**Opening year**: 2021

**Impacts to the Regional Economy†**

**$1.9** billion USD to 2022*
**$190** million USD 2023-2032

$1.9 billion to 2022*
$190 million 2023-2032
**Economic output**

$170 million to 2022*
$20 million 2023-2032
**Earnings**

16,200 to 2022*
2,200 for 2023-2032
**FTE jobs‡**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values

# Indian Assets

Cintra's Indian assets, reflecting Cintra's investment in IRB Infrastructure Developers Ltd, provide a fast and convenient form of travel within urban areas and between cities in various regions across India.

15 assets, covering a length of almost 1,000 miles, have been included in the analysis.

15 assets in India

980 miles

**Concession:** varies by asset
**Opening year**: varies by asset

**Impacts to the Regional Economy†**

**$680** million USD to 2022*
**$1.1** billion USD 2023-2032

$680 million to 2022*
$1.1 billion 2023-2032
**Economic output**

$120 million to 2022*
$190 million 2023-2032
**Earnings**

11,200 to 2022*
17,600 for 2023-2032
**FTE jobs‡**

**Impacts to Travelers and Communities†**

**$1.3** billion USD to 2022*
**$19.6** billion USD 2023-2032

$940 million to 2022*
$14.0 billion 2023-2032
**Traveler Impacts**
**Travel time, reliability, vehicle operating costs**

$230 billion to 2022*
$3.2 billion 2023-2032
**External Impacts**
**Safety, emissions**

$160 million to 2022*
$2.4 million 2023-2032
**Wider Economic Impacts**
**Agglomeration (productivity)**

* Cumulated benefits up to December 2022
† 2023-2032 impacts estimated using projected data
‡ Full Time Equivalent (FTE) jobs are measured in job-years.
2022 price base for all $ values
All values reflect start date of Cintra's investment and not actual construction and operational period of assets.

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