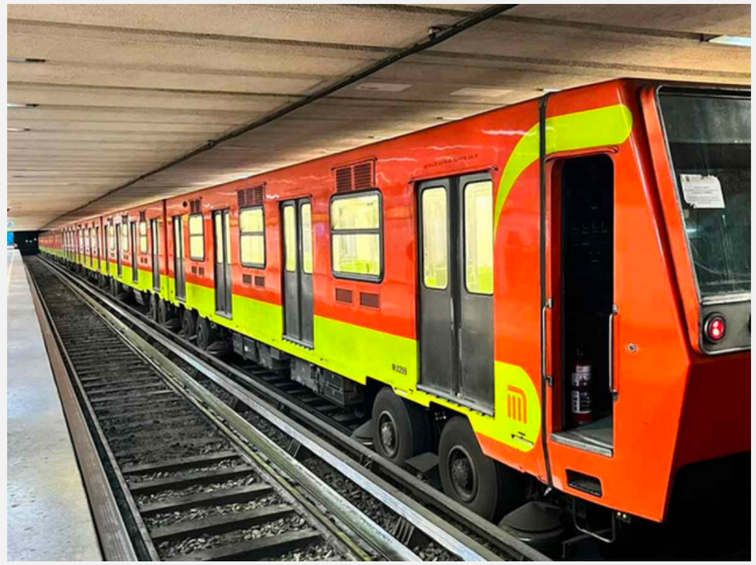
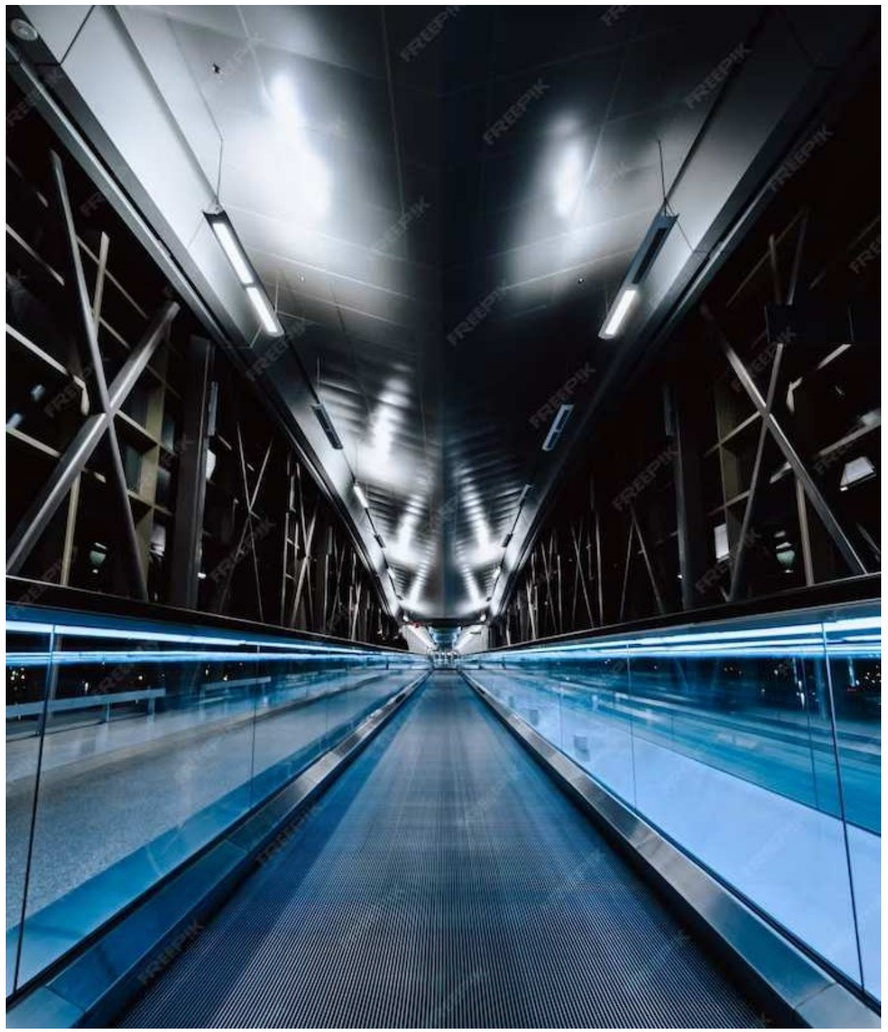
RIDING THE RAILS: PREDICTING THE FUTURE RIDERSHIP OF MEXICO CITY'S SUBWAY WITH LINEAR REGRESSION ANALYSIS



RIDING THE RAILS

Welcome to the future of Mexico City's Subway ridership! In this presentation, we will explore the **trends** and **predictions** using linear regression analysis and 3 scenarios.



Implications and Recommendations
Potential impact of predicted ridership on metro operations

Strategies to accommodate increased ridership

Importance of data-driven decision-making for urban transportation planning

Limitations and areas for further research

METRO RIDERSHIP DATA

Uncovering the patterns in the numbers. We'll delve into the **vast dataset** of Metro ridership to understand the **features** at play.

- Month
- Year
- Subway line and station.
- Weekday
- Holydays
- Season
- District

SEMOVI

	fecha	anio	mes	linea	estacion	afluencia	weekday	no_habil	season	Summer_vacations	Dia	Delegacion
0	2010-01-01	2010	Enero	Línea 1	Zaragoza	20227	4	True	4	False	1	Venustiano Carranza
1	2010-01-01	2010	Enero	Línea 1	Isabel la Católica	6487	4	True	4	False	1	Cuauhtémoc
2	2010-01-01	2010	Enero	Línea 1	Moctezuma	10304	4	True	4	False	1	Venustiano Carranza
3	2010-01-01	2010	Enero	Línea 1	Pino Suárez	8679	4	True	4	False	1	Cuauhtémoc
4	2010-01-01	2010	Enero	Línea 1	Gómez Farías	19499	4	True	4	False	1	Venustiano Carranza
...	...	...	...	...	...	...	...	...	...	...	...	...
973240	2023-08-31	2023	Agosto	Línea B	Romero Rubio	14861	3	False	2	False	31	Venustiano Carranza
973241	2023-08-31	2023	Agosto	Línea B	Río de los Remedios	15842	3	False	2	False	31	Gustavo A. Madero
973242	2023-08-31	2023	Agosto	Línea B	San Lázaro	24833	3	False	2	False	31	Cuauhtémoc
973243	2023-08-31	2023	Agosto	Línea B	Tepito	19832	3	False	2	False	31	Cuauhtémémoc
973244	2023-08-31	2023	Agosto	Línea B	Villa de Aragón	15716	3	False	2	False	31	Gustavo A. Madero

FEATURE ENGINEERING

Crafting the perfect model. Explore the **key features** that influence Metro ridership and how we identify and manipulate them for accurate predictions.

MODEL TRAINING AND TESTING

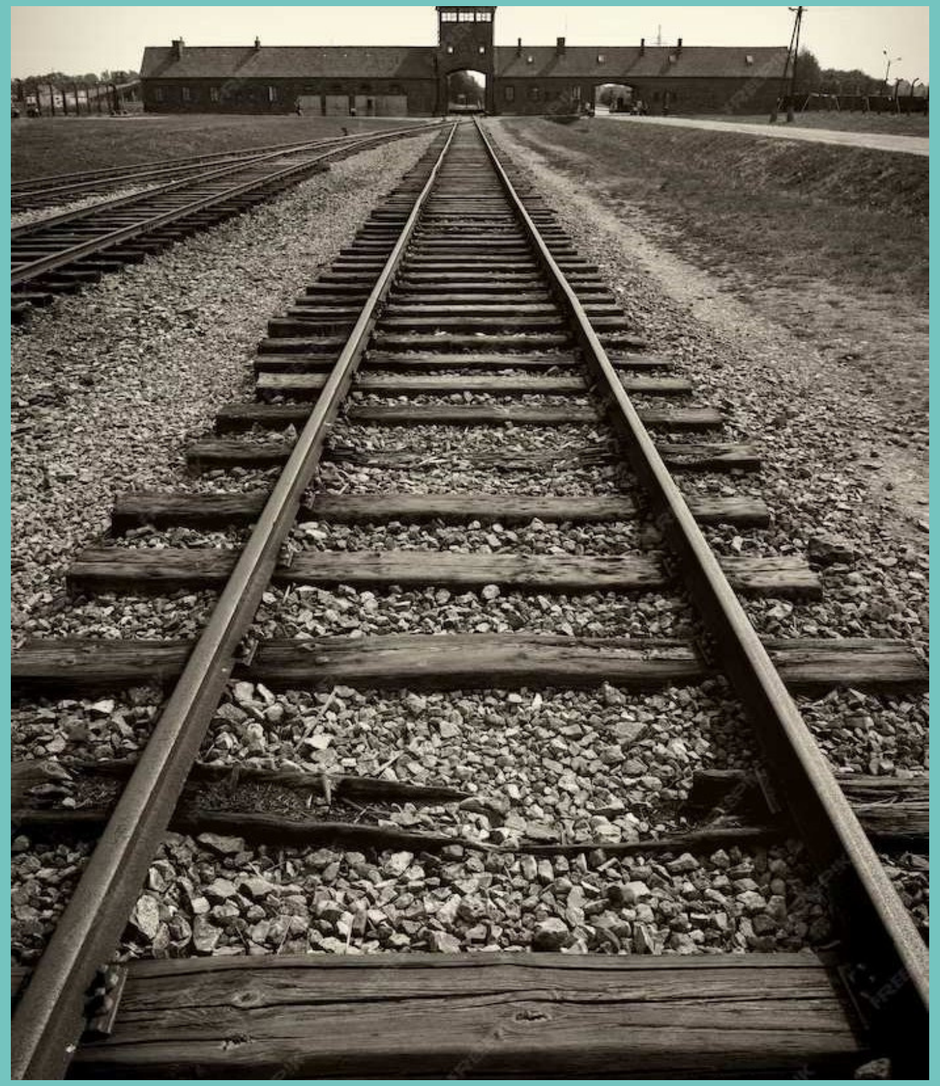
Testing the tracks for smooth rides. We'll walk through the process of **training** and **testing** our model to ensure its reliability.

PREDICTIVE ANALYSIS RESULTS

Peering into the crystal ball. Discover the **insights** and **forecasts** generated by our predictive analysis of Mexico City's subway ridership.

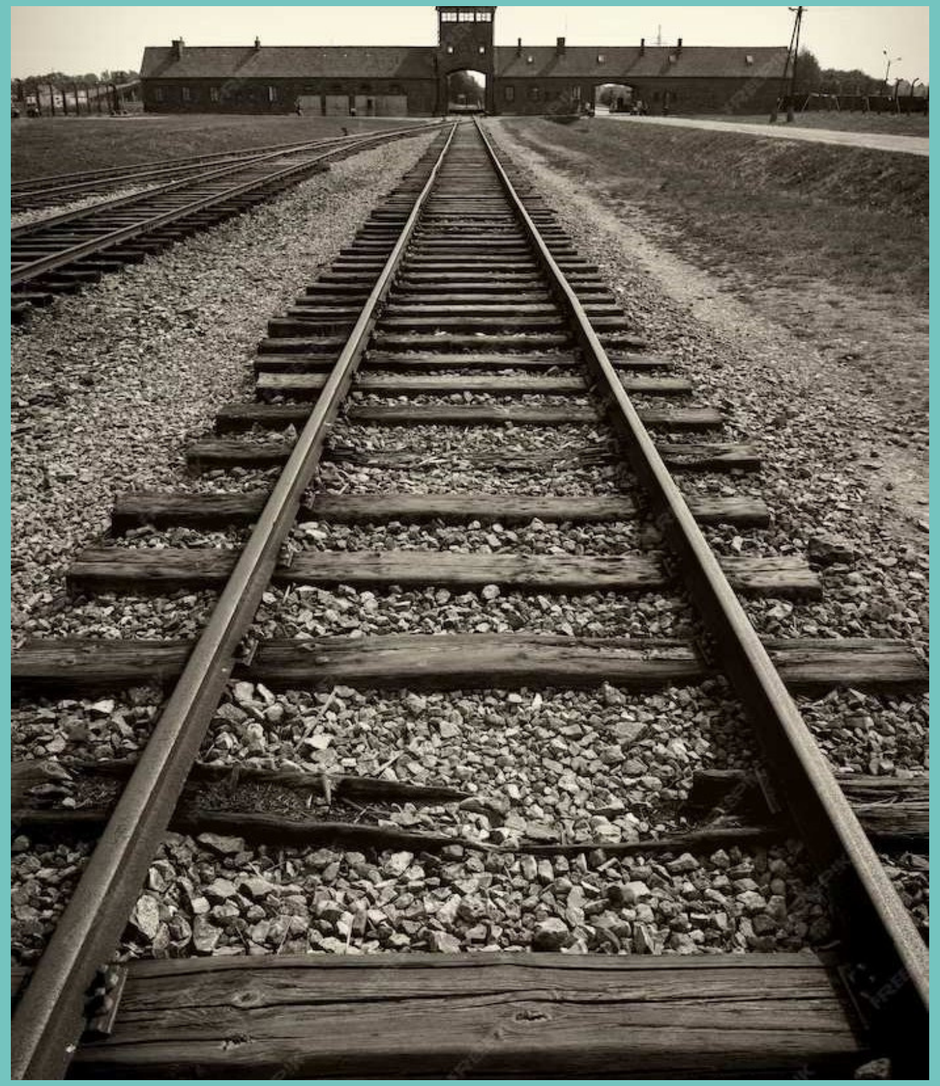
CHALLENGES AND LIMITATIONS

Navigating the bumps in the road. We'll address the **challenges** and **limitations** of our analysis and discuss potential areas for improvement.



Since social implications are almost unpredictable as well as unexpected events.

- Malfunctioning
- Strikes
- Natural disasters
- New transportation methods.



CONCLUSION

Thanks!

Q&A