OBBBA Reducing Transportation Funds: Economic Analysis using REMI-AI

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what does REMI say?℠

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Agenda

- The "Big Beautiful Bill" and Transportation
- Impact of First-Mile Transit
- Input Methodology: REMI TranSight and REMI AI
- Analysis Output from TranSight and REMI AI
- Conclusion
- Q&A

What is the One Big Beautiful Bill Act (OBBBA)?

Taxes & Economy

- Cuts corporate tax (21% to 15%)
- Reduces capital gains, estate taxes
- Aims to stimulate business investment with deregulation

Government & Regulation

- Encourages faster project approval
- Private sector involvement
- Reduces power of federal agencies

Energy & Environment

- Eliminates EV and renewable energy tax credits
- Roll back clean energy programs
- Expands oil and gas drilling

National Priorities & Security

- Redirects funding to "America First" priorities
  - Border control, domestic production, etc.

The Big Beautiful Bill's Impact on Transportation

- Reallocation of Funds
  - The bill shifts funding priorities to roads, bridges, air traffic control, and maritime infrastructure
- Metro Funding Cuts
  - The bill repeals federal authorization for the Capital Investment Grants program used for large transit projects
  - The bill cuts discretionary funding for the RAISE program used for multimodal hubs and first/last mile projects
- More Funding at Risk
  - Transportation Secretary Sean Duffy has threatened to cut funding to states who do not cooperate with ICE

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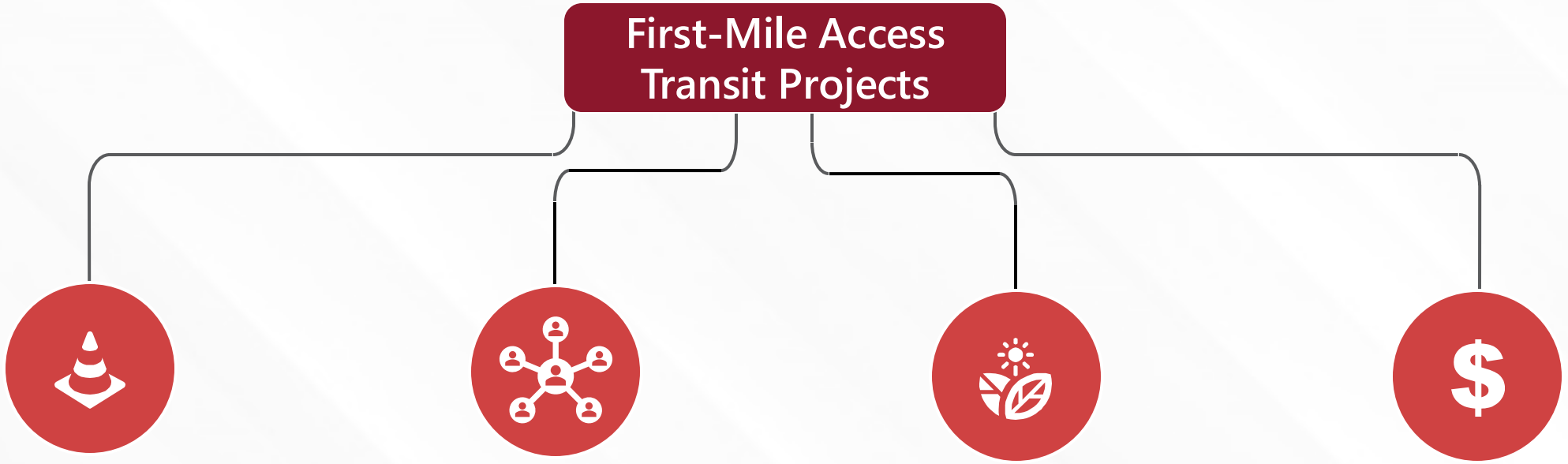
"First-Mile Access Transit"

- "First-Mile" (FM) and "Last-Mile" (LM): the **first/final segment** of a trip (common forms: walking, cycling, **transit**)
- Our study focus: projects extending **public transit** to improve FM convenience
  - Expanding core transit network to **connect the previously disconnected/relatively less connected regions**
  - **What's the impact** of (potentially) cutting off these projects under the context of the Big Beautiful Bill?

Theoretical Importance of First-Mile Access Transit



Solve Barrier in Transit Use

People can be discouraged from using transit because they can't easily reach it

Improved Accessibility

Low-income, elderly, and disabled riders are most affected by poor first-mile options

Reduced Emissions

Making transit accessible can improve safety & reduce car trips

Increased Revenue

Transit projects bring ridership, leading to increased revenue generation

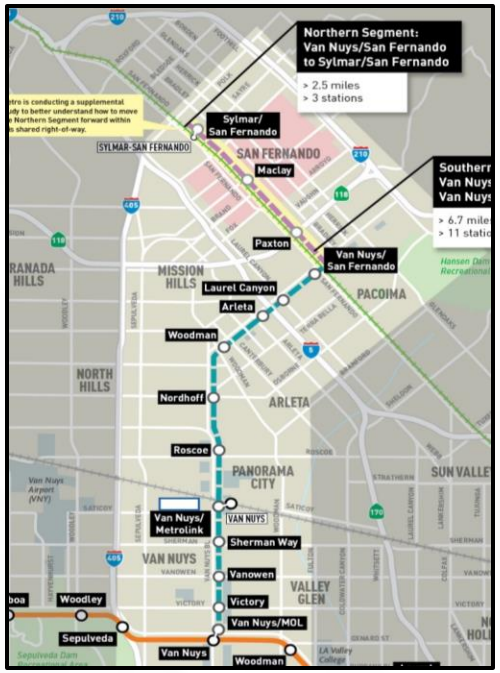
Comparative Cases between 3 Metropolitan Areas

New York: Interborough Express

- 14 mi light rail project
- Brooklyn – Queens
- Planning

Chicago: Red Line Extension

- 5.6 mi metro extension
- 95th – 130th Street
- Planning/Pre-Construction



Los Angeles: East San Fernando

- 6.7 mi light rail project
- San Fernando – Van Nuys
- Planning/Pre-Construction

*Project selection rationale: (1) connecting previously **less-connected** neighborhoods; (2) during the planning/pre-construction stage to balance **information availability** with the **flexibility of travel demand estimation**

*what does REMI say?*sm

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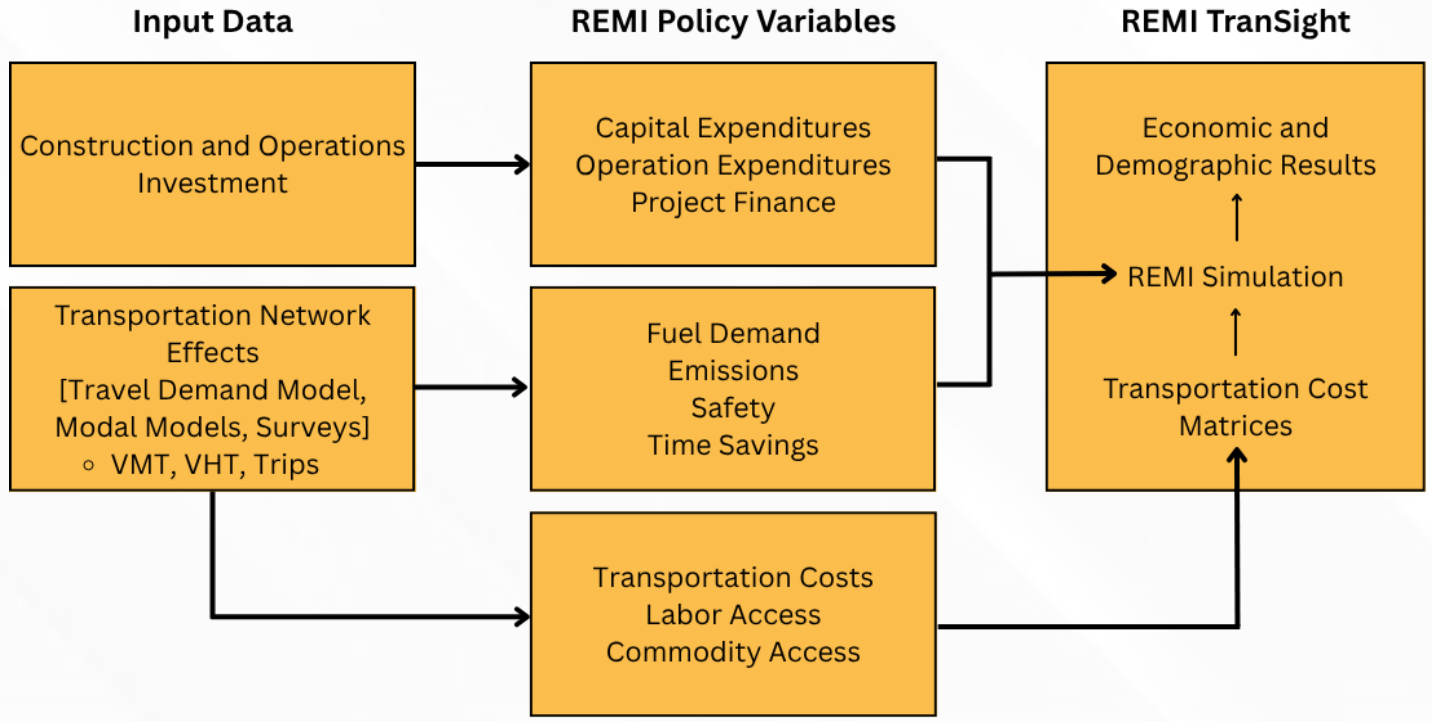
Model Simulation: REMI TranSight

TranSight is the premier software solution for comprehensive evaluations of the total economic effects of transportation policy.

Grounded in over 20 years of modeling experience, decision-makers depend on TranSight to forecast the short- and long-term impacts of transportation investments on jobs, population, income, and other economic variables

TranSight



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Assumptions of Analysis

Variable	Vehicle Miles Traveled	Vehicle Hours Traveled	Vehicle Number of Trips
Source/ Formula	Public Info, Research & Reports	$VHT = \frac{VMT}{Avg.\ Speed\ (mph)}$	$V\_Trips = \frac{VMT}{Avg.\ Trip\ Length\ (mi)}$
Variable	**Railway Miles Traveled**	**Railway Hours Traveled**	**Railway Number of Trips**
Source/ Formula	Public Info, Research & Reports	$RHT = \frac{RMT}{Avg.\ Speed\ (mph)}$	$R\_Trips = \frac{RMT}{Avg.\ Trip\ Length\ (mi)}$

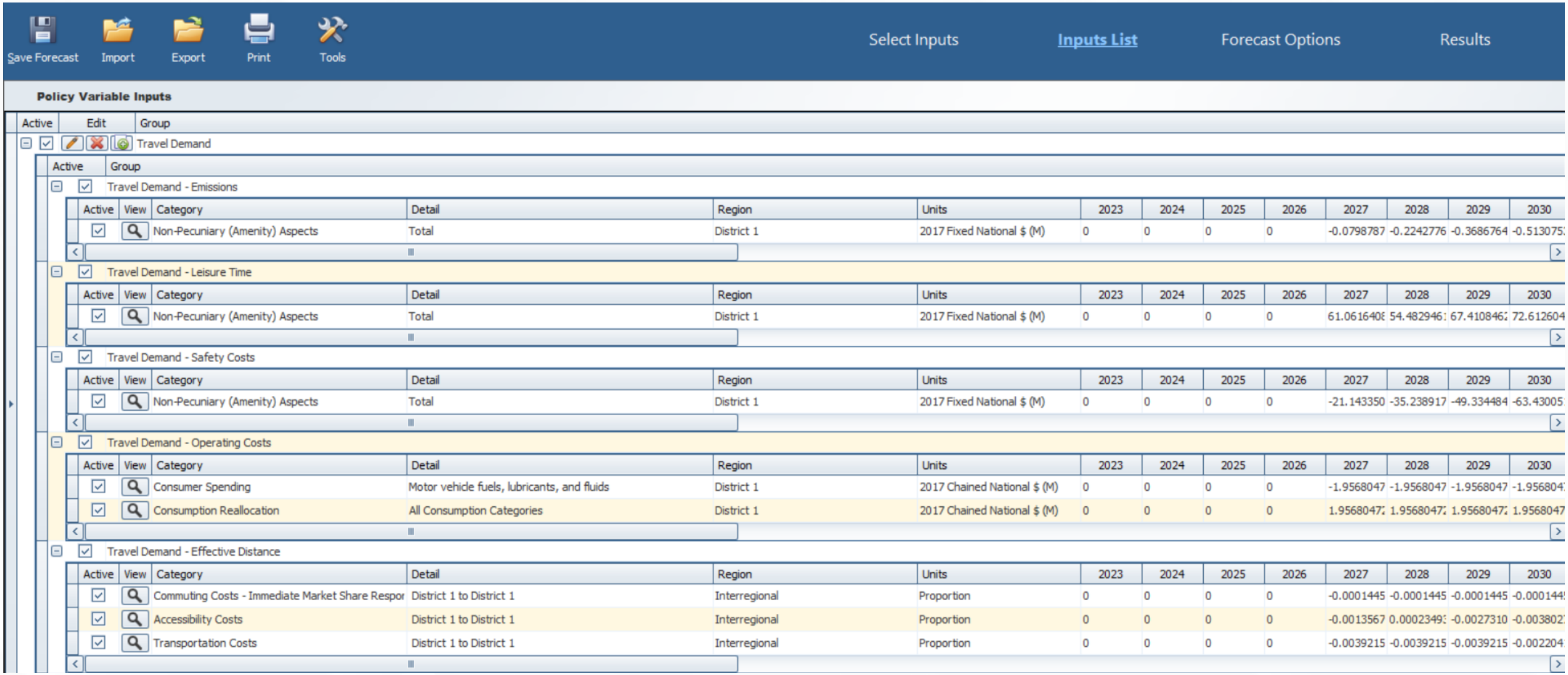
Variable	Vehicle Average Speed (mph)			Vehicle Average Trip Length (mi)		
Location	NYC	CHI	LA	NYC	CHI	LA
Assumed Value	16.1	12.8	19.6	7.9	5.9	9.3
Variable	**Rail Average Speed (mph)**			**Rail Average Trip Length (mi)**		
Location	NYC	CHI	LA	NYC	CHI	LA
Assumed Value	25			4.5	6.3	6.9

Model Inputs: TranSight

Origin	Destination	Year	Auto_Trips	Auto_VMT	Auto_VHT	LightRail_Trips	LightRail_VMT	LightRail_VHT
1	1	2026	0	0	0	0	0	0
1	1	2027	baseline	baseline	baseline	baseline	baseline	baseline
Origin	Destination	Year	Auto_Trips	Auto_VMT	Auto_VHT	LightRail_Trips	LightRail_VMT	LightRail_VHT
1	1	2026	0	0	0	0	0	0
1	1	2027	adjusted	adjusted	adjusted	adjusted	adjusted	adjusted

- TranSight travel demand module is compatible with .csv input datasets
- Inputs generated through a "baseline" scenario and "adjusted" scenario – typically reflecting a non-investment vs. Investment situation to show the effects of transit infastructure
- Key variables for travel demand modeling: # trips + vehicle miles traveled (VMT) + vehicle hours traveled (VHT) disaggregated by mode of transportation

Model Inputs: TranSight



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Model Simulation: REMI AI

REMI-AI

REMI-AI is the next evolution in policy analysis. This tool streamlines your workflow by generating high-quality deliverables—a one-pager, a PowerPoint presentation, and a comprehensive report—directly from your model results.

Built with the newest and most secure artificial intelligence technology, REMI-AI relies exclusively on REMI model documentation and equations, ensuring accuracy and reliability without pulling information from external sources.

Report generator

Generate a custom economic report.

PowerPoint generator

Create an insightful and digestible slide deck.

One-pager

Develop an overview of the impacts of policy for your team.

Virtual economic assistant

Get modeling assistance on demand.

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REMI AI Application

Put your Simulation in Context

Title your Report

Regional Simulation 1 Report 2

Describe your Simulation (Recommended)

This simulation demonstrates the regional economic benefits of investing in First-Mile Transit infrastructure in the city of Chicago.

Describe your Policy Variables (Recommended)

Active	Group	Notes	
☑	Travel Demand	TDM Data representing the changes as a result of the new infrastructure	

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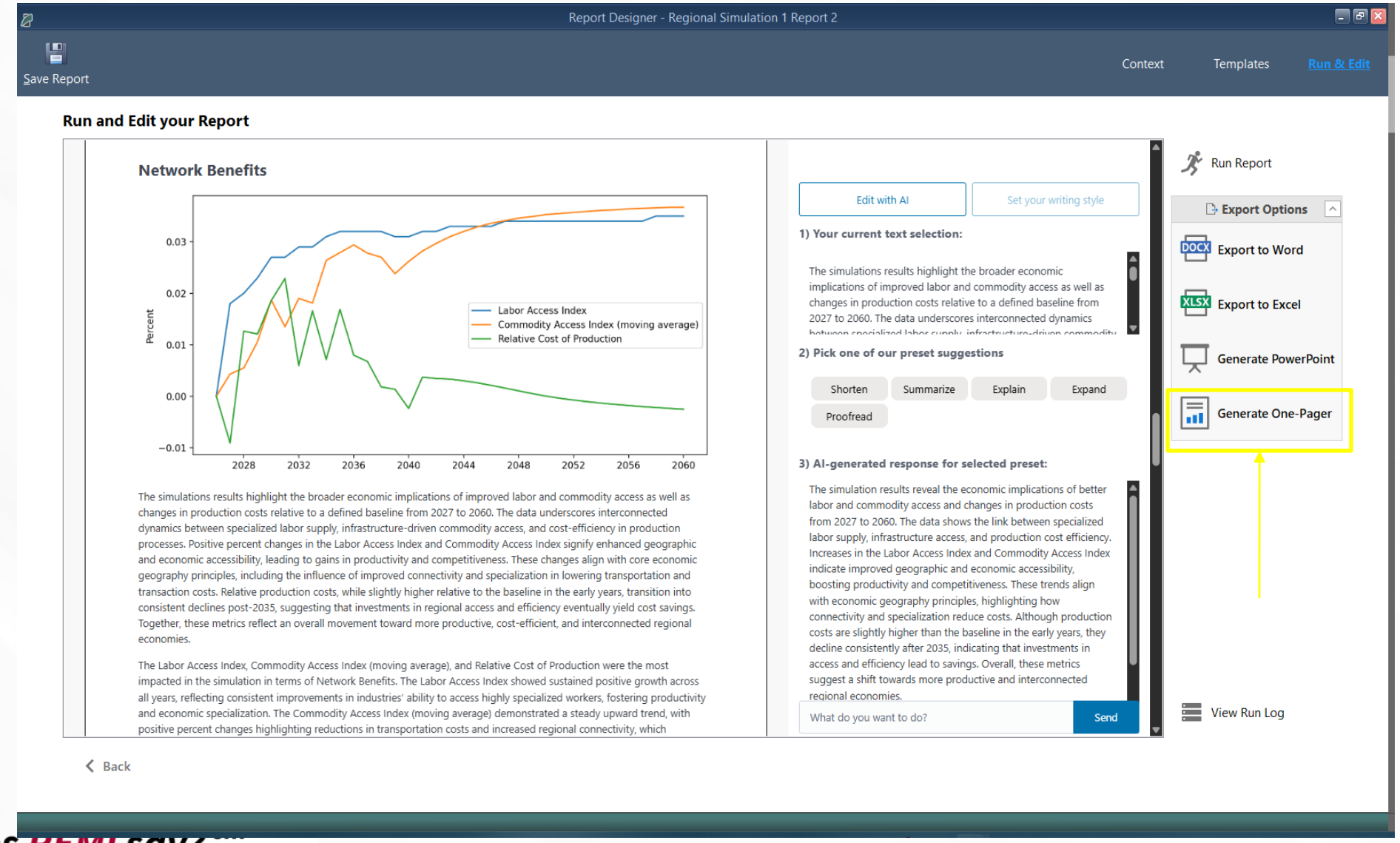
REMI AI Application



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REMI AI Application

- Template of REMI TranSight AI output
- Pulls key results indicators out of model and generates comprehensive editable one-pager

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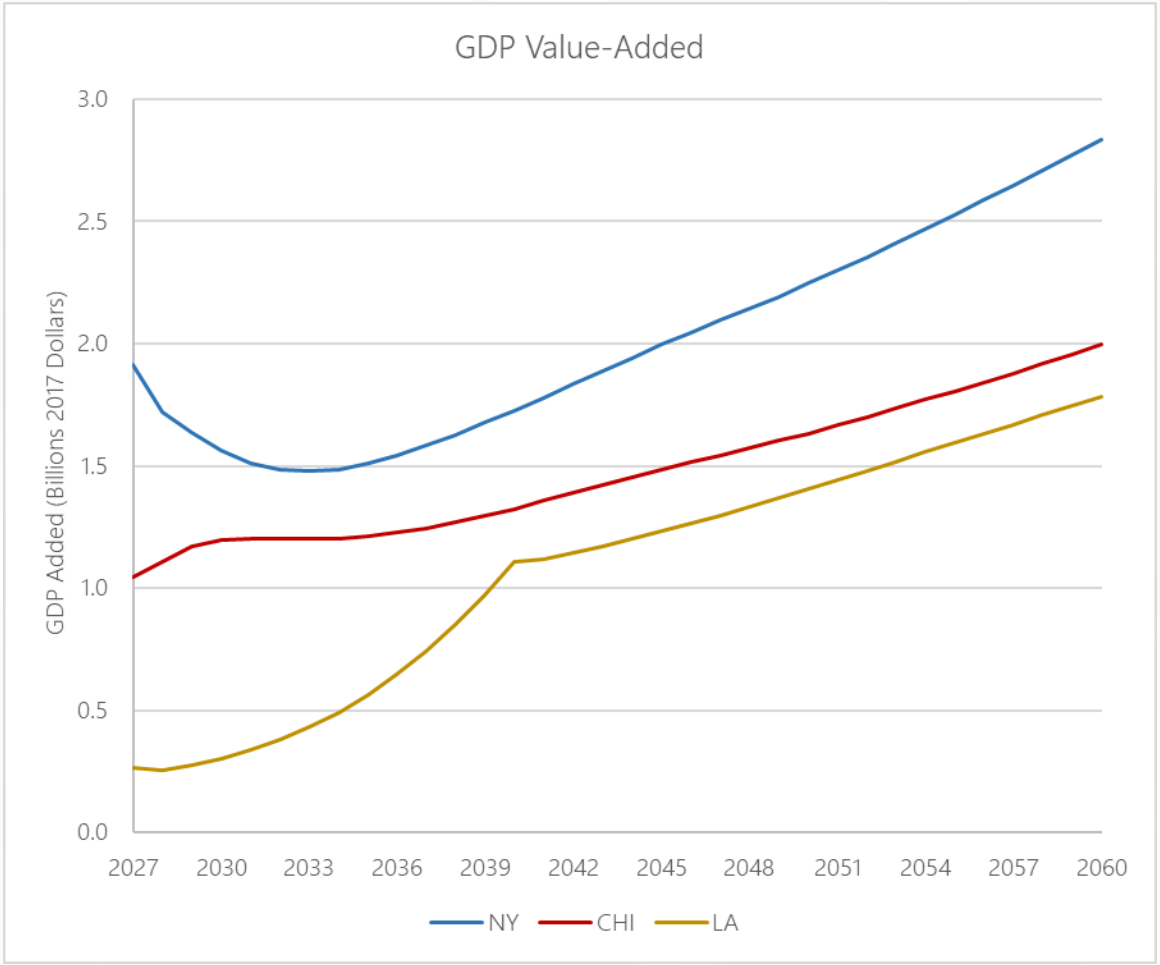
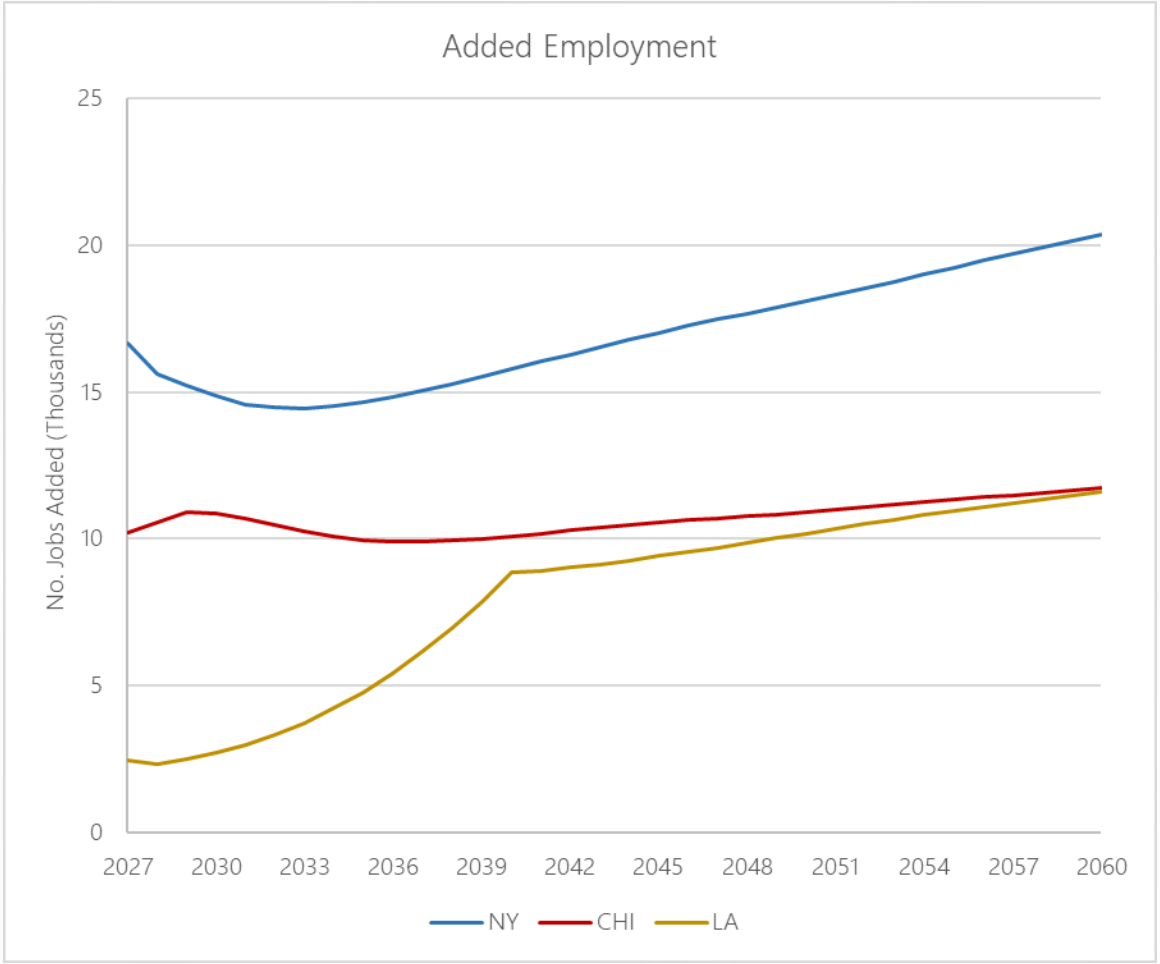
Key Economic Results: Foregone Output

- **Exponential Extrapolation:** based on research (Lin et al, 2024) and past REMI client experience, transit systems usually take ~**10-15 years** to reach full ridership capacity
  - Hence, we assume ridership to grow exponentially at a slow rate (population growth) from 2027-2040
- GDP Trends: value-added to the economy by 2060
  - NYC: 2.8B
  - Chicago: 2.0B
  - LA: 1.7B
- Consistent positive contributions over the forecast period
- J-shape line: initial benefit – expansion – network benefit



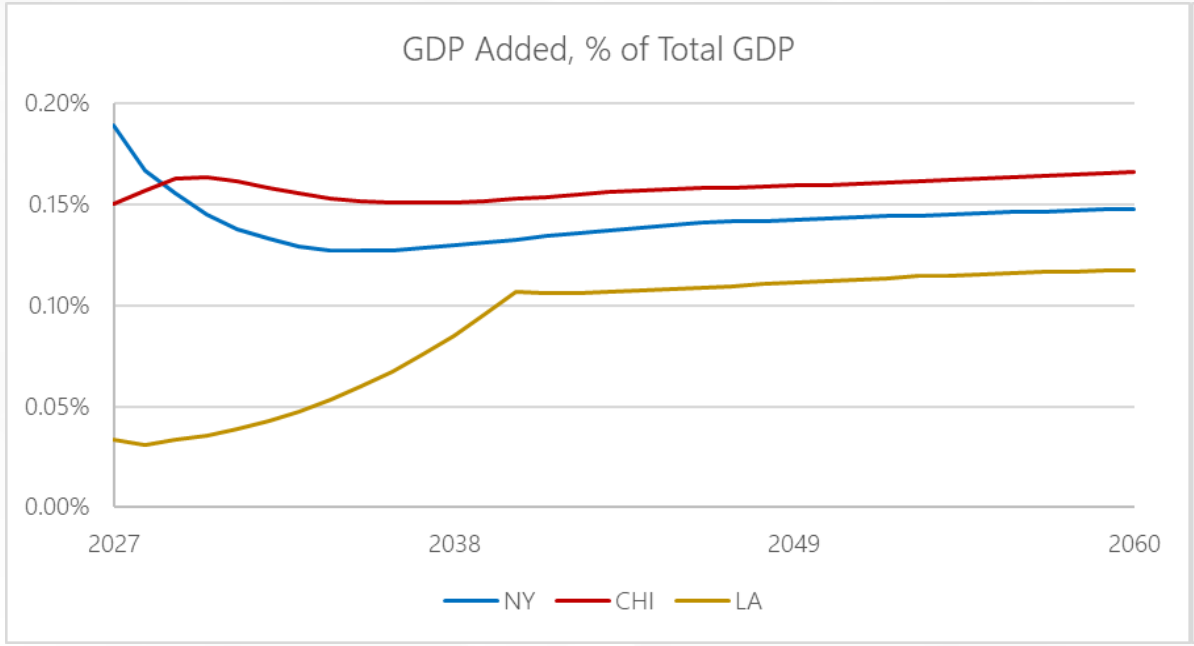
Key Economic Results: Foregone Employment

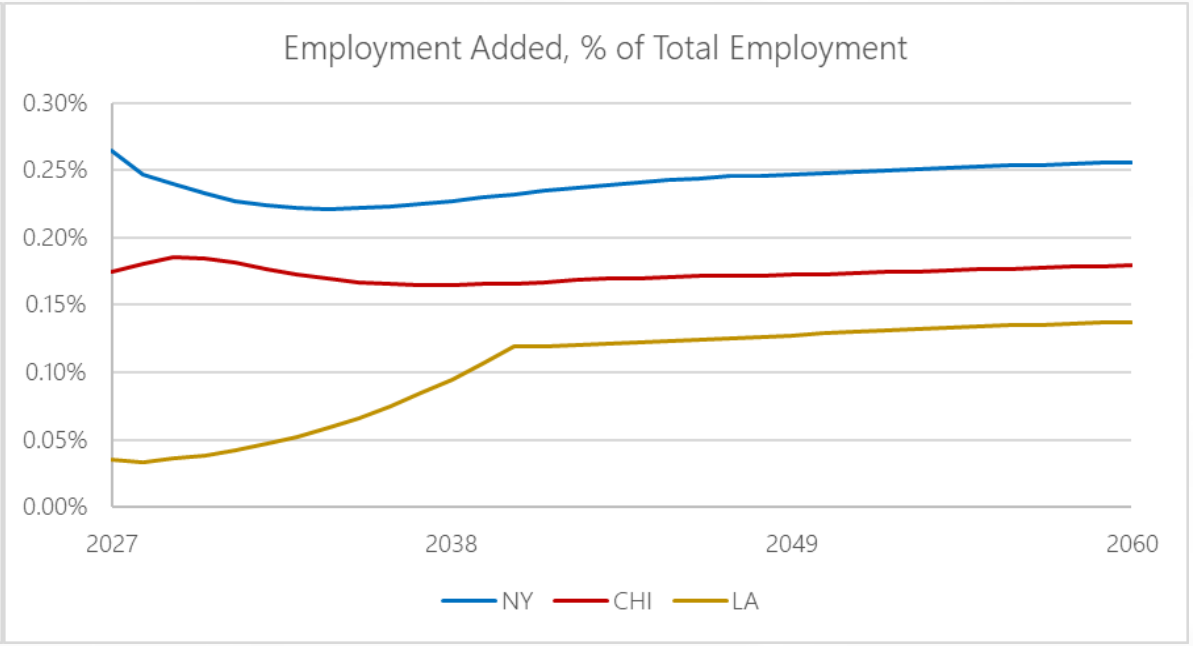
- Exhibited similar growth trend as GDP: Initial benefit, expansion, and network benefits
- Employment creation: Jobs created by 2060
  - NYC: 21K
  - Chicago: 12K
  - LA: 12K
- Different growth patterns: response of **regional-specific parameters & regional input-output matrix** to shocks
  - NY assumed higher population density – slightly quicker expansion even after 2040
  - LA county's employment is more responsive to travel demand increases – faster growth in initial phases



Key Economic Results: Impact as a Percentage of Total

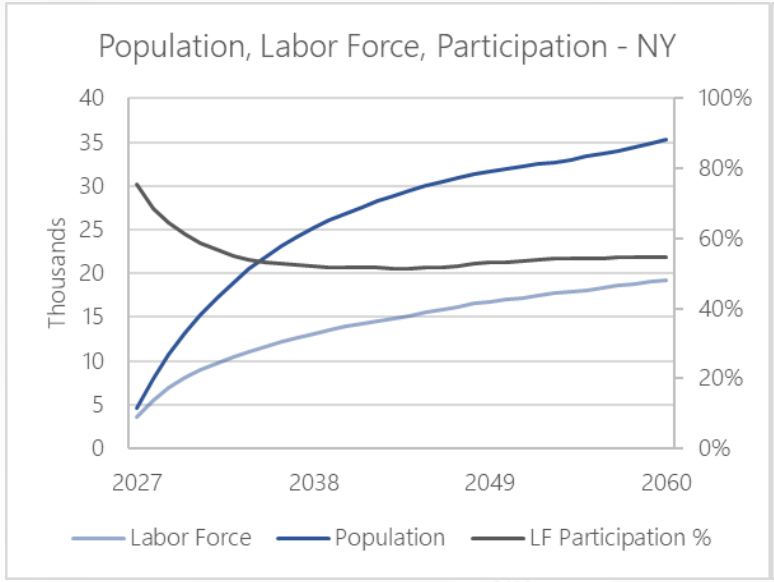
- We can see by how much does GDP & employment change **relative to the inherent size** of the economy
- CHI demonstrates a higher GDP added as a **% of total** GDP due to its smaller size compared to NY
- By 2060 GDP and employment increases by:
  - NYC: 0.15% of total GDP and 0.26% of total employment
  - Chicago: 0.17% of total GDP and 0.18% of total employment
  - LA: 0.12% of total GDP and 0.14% of total employment

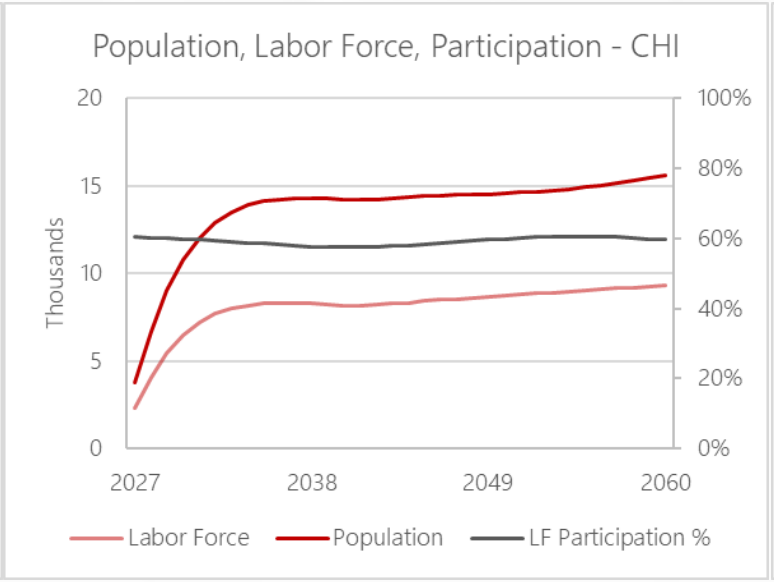


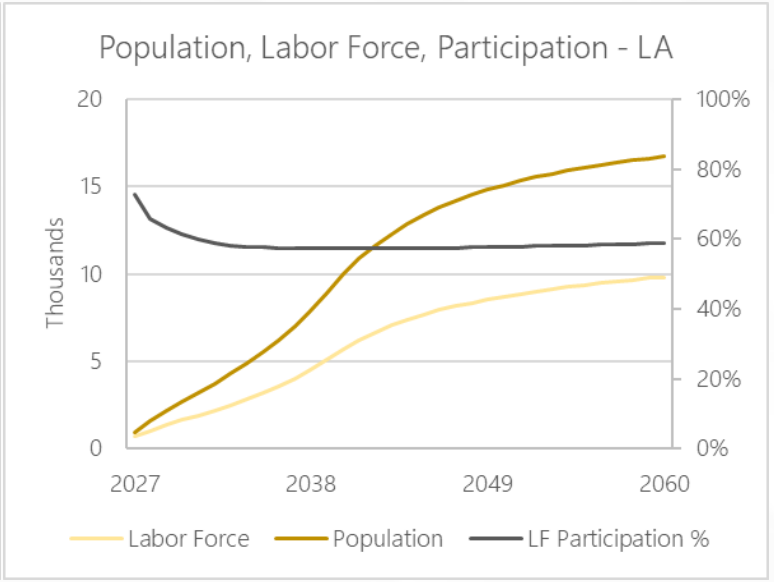


Key Economic Results: Foregone Demographic Benefits

- Population & labor force both increase in response to a hypothetical transportation project construction
  - Improvement in travel efficiency attracts **"economic migrants"** from other nearby regions
  - Increased employment -> immigrant attractiveness -> increased employment (positive feedback loop!)
  - Birth rate is not significantly shocked in response to transportation projects
- (Marginal) labor force participation: increased first, then decrease & **converge** to the 3 regions' respective long-run labor participation rate (60%-65%)
  - Economic migration happens **upfront** in a transportation project scenario

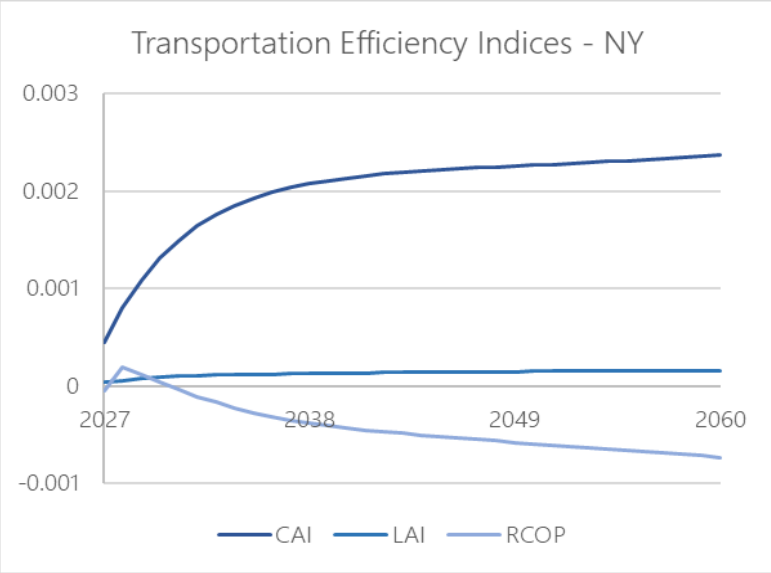


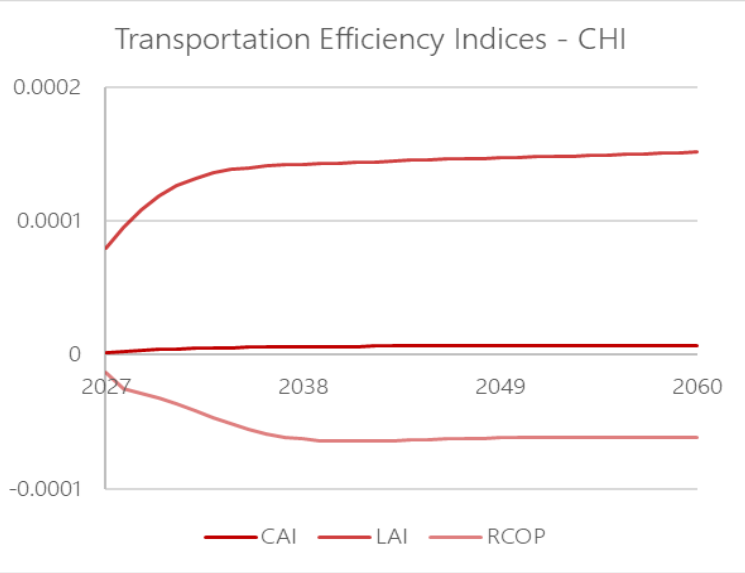


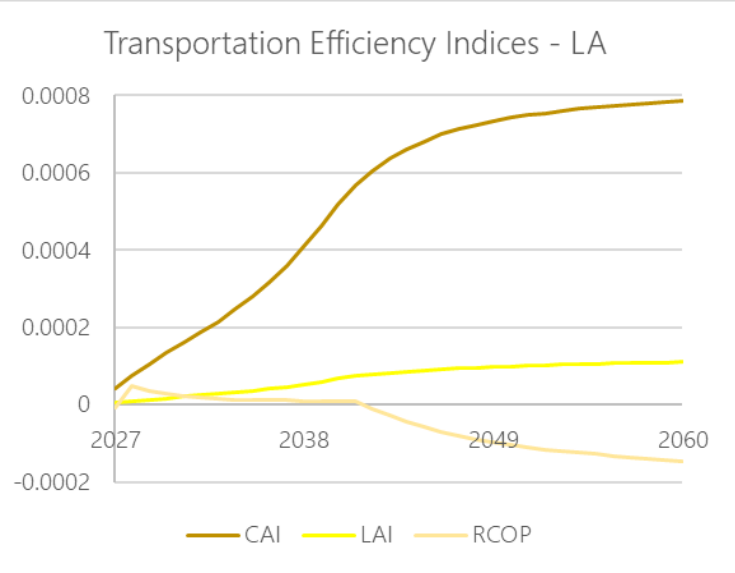


Key Economic Results: Foregone Travel Efficiency

- REMI TranSight model tracks many transportation-specific indices that capture travel efficiency effects. E.g.:
  - **Commodity Access Index (CAI):** measures the change to access to specialized inputs
  - **Labor Access Index (LAI):** measures the workplace's access to workers & workers' access to workplace
  - **Relative Cost of Production (RCOP):** cost of local production using composite input prices & labor cost
- CAI & LAI increase: improved transportation increases **access of commodity & labor** -> economic efficiency
- RCOP decrease: improved accessibility **lowers input & labor costs**
  - All 3 variables increase/decrease at a decreasing rate: the **diminishing marginal returns**







Summary: Compare & Contrast

	New York	Chicago	Los Angeles
Observations	• Largest flat GDP & employment increases • Most obvious J-curve shape • Largest increase in CAI, LAI	• Medium flat GDP & employment increases • Smallest marginal labor participation changes	• Smallest flat GDP & employment increase • But relatively large labor force, CAI & LAI increase
Potential Explanation	• Largest project • Largest population & population density • Large transit elasticity -> significant network effects	• Second-largest project • Smaller regional population density -> smaller labor force/participation change • Medium transit elasticity	• Smallest project, but still close to Chicago • Input-output relationships • Largest transit elasticity -> fastest growth phase

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Conclusion

The "OBBBA"

- Funding threat for upcoming transportation projects
- People have less access to public transportation due to funding cuts

Effect on Transportation

- Foregone output, job, demographic, efficiency benefits
- Regional differences driven by intrinsic locational factors

REMI's Role

- Quantify the impact of given policy changes
- Address stakeholders with evidence of how policy benefits/harms their communities broadly

Thank you for attending!

For more information, please contact:

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