

AAMPO REGIONAL FREIGHT STUDY

EXECUTIVE SUMMARY



AAMPO

DRAFT—OCTOBER 2025



CAMBRIDGE
SYSTEMATICS

AAMPO Regional Freight Study

Executive Summary



prepared by

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date

DRAFT—October 2025

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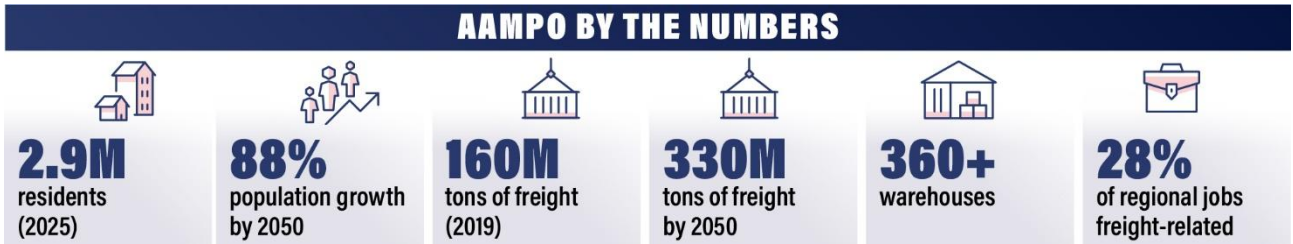
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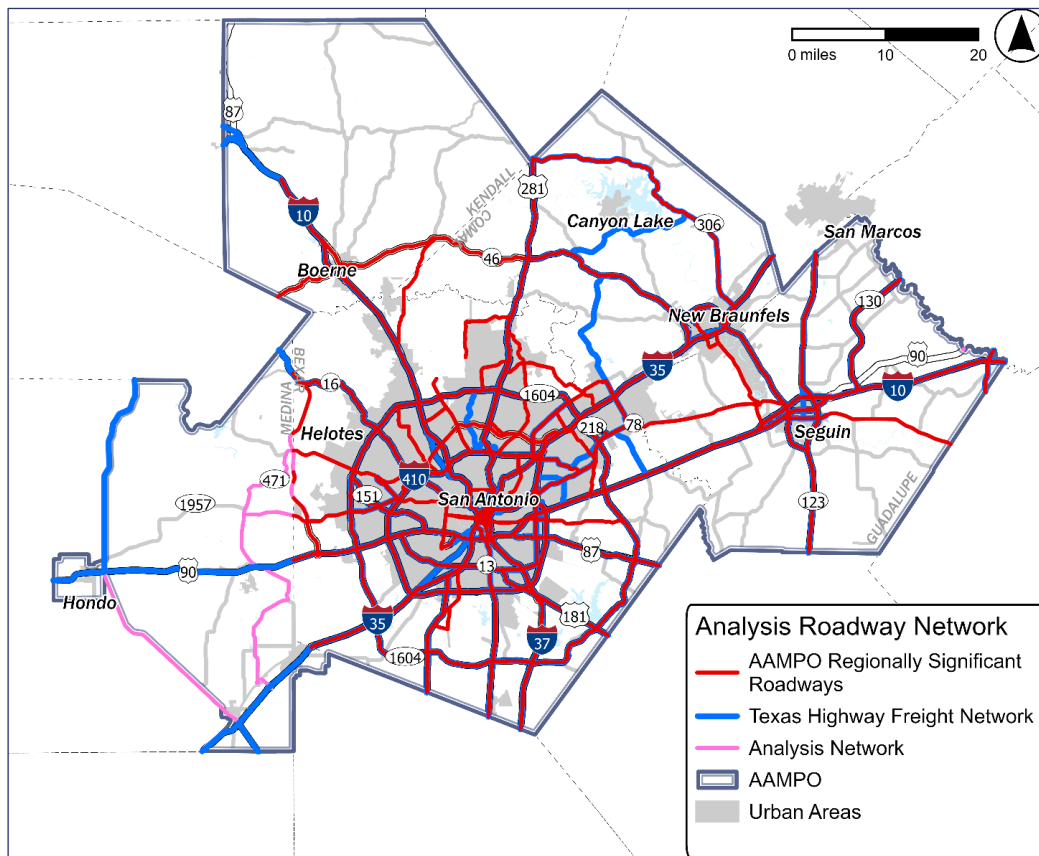
1.0 Why Regional Freight Planning Matters



The Alamo Area Metropolitan Planning Organization (AAMPO) region is a vital hub in Texas' freight network, with over 160 million tons of freight moving annually, a figure expected to more than double by 2050. As one of the fastest-growing regions in the U.S., strategic freight planning is essential to accommodate this growth, support economic development, and maintain safety and resilience. The region's location at the intersection of major freight corridors like IH-10, IH-35, and IH-37 positions it as a key gateway for domestic and international trade, particularly with Mexico.

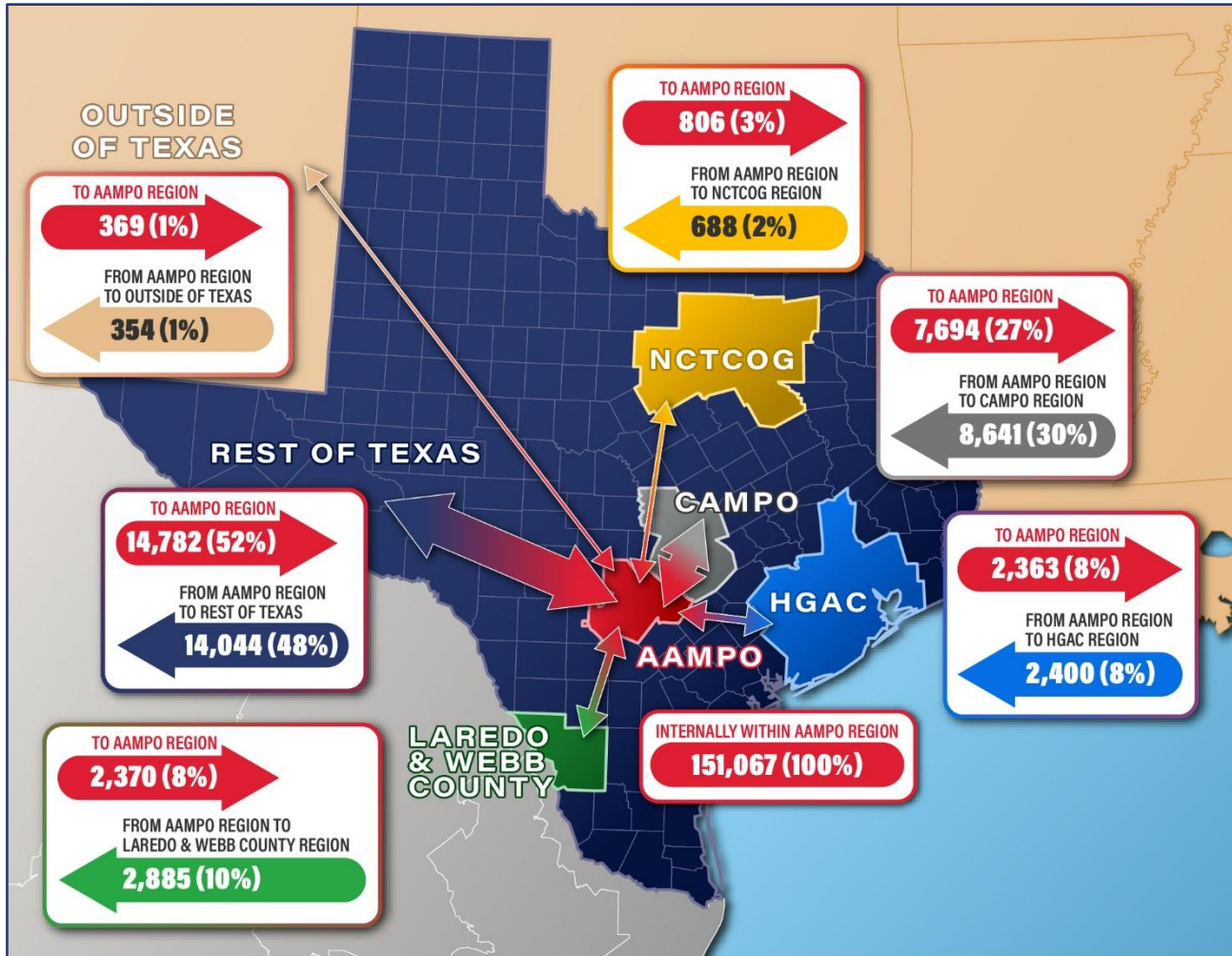
Freight planning in the AAMPO region is not just about managing volume; it is about aligning infrastructure with future needs. With 360+ warehouses and nearly one-third of regional jobs tied to freight, the freight and logistics sector is deeply embedded in the local economy. AAMPO's freight strategy aims to enhance multimodal connectivity, address infrastructure gaps, and support sustainable and resilient growth through coordinated investments and policy development.

Figure 1 Study Area and Analysis Network



The AAMPO region is at a strategic crossroads for international trade and is a key manufacturing and logistics center within the Texas Triangle (San Antonio/Austin, Houston, and Dallas/Fort Worth) megaregion. Significant freight corridors such as IH-35, which connects Texas and the broader U.S.-economy to Mexico and Canada, and IH-10, which spans the country from east to west, make the AAMPO region a critical focal point for freight movement. About 151,000 truck trips occur each day, both originating within and destined for the AAMPO region. There are also significant truck travel patterns between AAMPO region and Capital Area Metropolitan Planning Organization (CAMPO), Laredo & Webb County and North Central Texas Council of Governments (NCTCOG) regions.

Figure 2 AAMPO Region Truck Origins/Destinations



Source: Texas Department of Transportation (TxDOT). Texas Truck Analysis Tool (2022).



2.0 Outreach & Planning Process

The AAMPO Regional Freight Study used a layered engagement strategy to ensure input from both public- and private-sector stakeholders. Central to this process was the **Oversight Committee**, which met four times over the course of the study to guide goals, review findings, provide feedback on strategies, and build momentum to implement the study's key findings. In addition, AAMPO hosted a **Freight Industry Forum** (March 2025), which brought together trucking firms, rail operators, airport authorities, and other industry participants. The forum featured presentations, breakout discussions, and interactive polling to discuss pressing concerns such as congestion, truck parking shortages, safety, and rail crossing delays.

To broaden participation, AAMPO conducted an **industry-focused survey**, which received a strong response from trucking professionals (94% of respondents). This survey reinforced congestion and truck parking as top priorities, while also highlighting safety, resilience, and enforcement challenges. Outreach also included **industry-specific meetings** (e.g., with the Texas Trucking Association and San Antonio Transportation Association) to capture operational perspectives on inspections, regulatory delays, and infrastructure needs. Finally, progress was shared with the **Technical Advisory Committee (TAC)** and **Transportation Policy Board (TPB)** to align with regional transportation planning and secure policy support.

Oversight Committee

- AAMPO
- AACOG
- Allset Parking
- Bexar County
- City of Cibola
- City of Hondo
- City of New Braunfels
- City of San Antonio
- City of Schertz
- City of Seguin
- Comal County
- Double Diamond
- Guadalupe County
- Joint Base San Antonio
- Port of San Antonio
- Truck Safety 1
- TxDOT
- VIA

KEY ENGAGEMENT TOUCHPOINTS



Four Oversight Committee meetings
(Oct 2024, Jan 2025, May 2025, Aug 2025)



Freight Industry Forum
(March 2025)



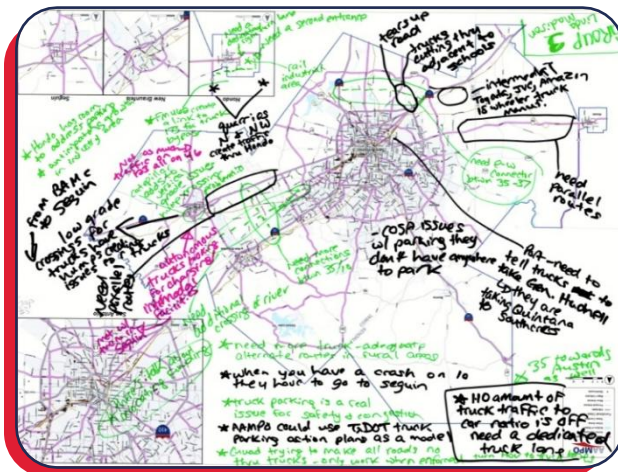
Follow-up trucking industry survey
(98 responses)



Targeted industry meetings
(e.g., Texas Trucking Association)



TAC and TPB briefings



3.0 Freight Demand: Current & Future

Freight demand in the AAMPO region is projected to grow dramatically, with total tonnage increasing by 106% and total value by 147% between 2019 and 2050. The majority of freight will continue to move outbound, reflecting the region’s role as a production hub, driven by manufacturing, agriculture, and logistics sectors. Internal and inbound flows are also projected to grow, but at a slower pace, indicating a continuation of the region’s export-oriented freight movement.

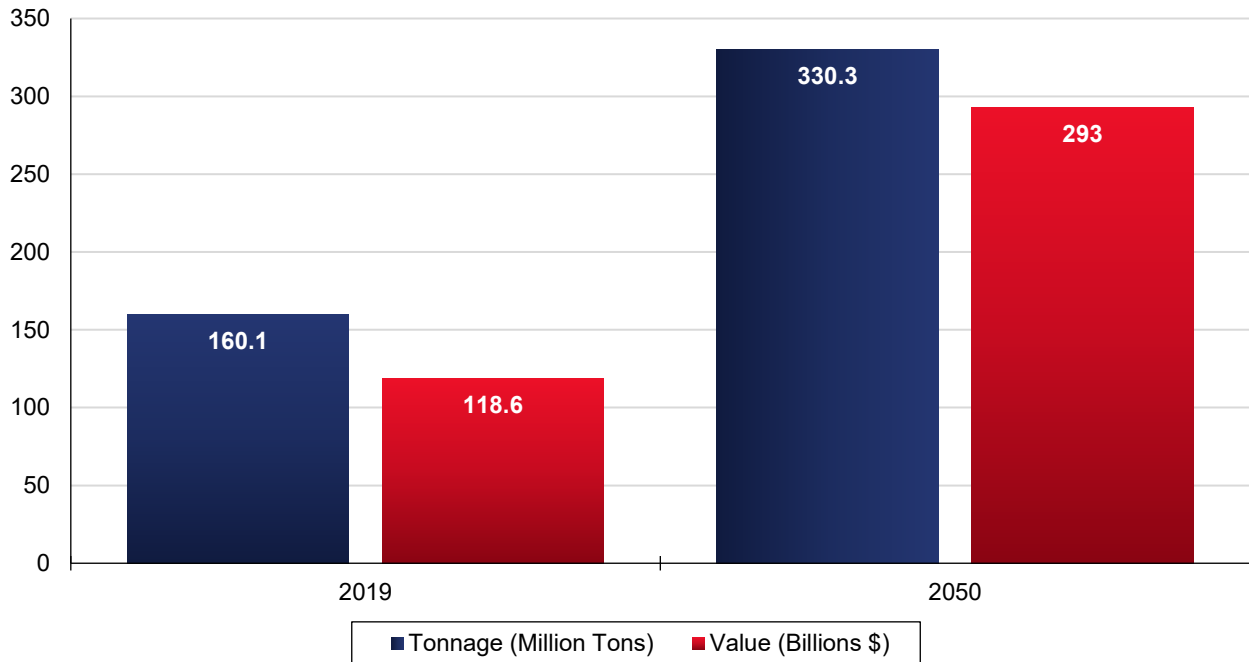
“Truck parking should be readily accessible from all major highways into the city.”

“More truck parking is needed all along the I-35 corridor as well as along I-10 outside of Loop 410.”

- Survey Comments

This growth is fueled by a growing population, e-commerce, and industrial development. The rise of warehousing and logistics facilities, especially in Guadalupe, Comal, and Kendall Counties, has reshaped freight patterns. Major players such as Amazon and HEB have established significant operations, with both companies continuing to develop new warehousing and distribution facilities in the region, and land use trends show clustering of freight activity along key corridors such as IH-35 and Loop 410. These dynamics underscore the need for infrastructure upgrades and strategic planning to support future freight flows.

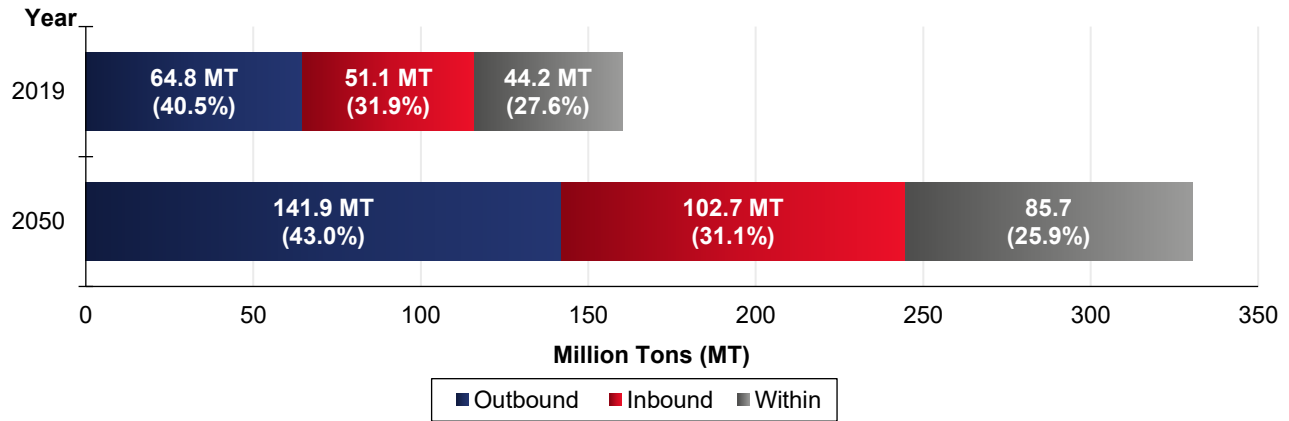
Figure 3 Overall Comparison of Tonnage and Value for 2019 versus 2050



Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.

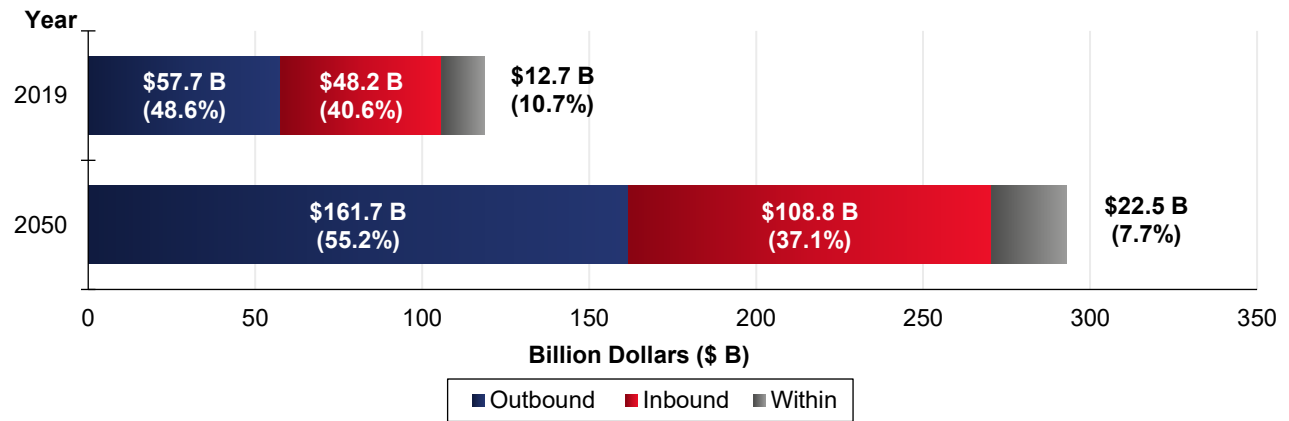


Figure 4 Freight Flows by Tonnage—2019 and 2050 (Millions of Tons)



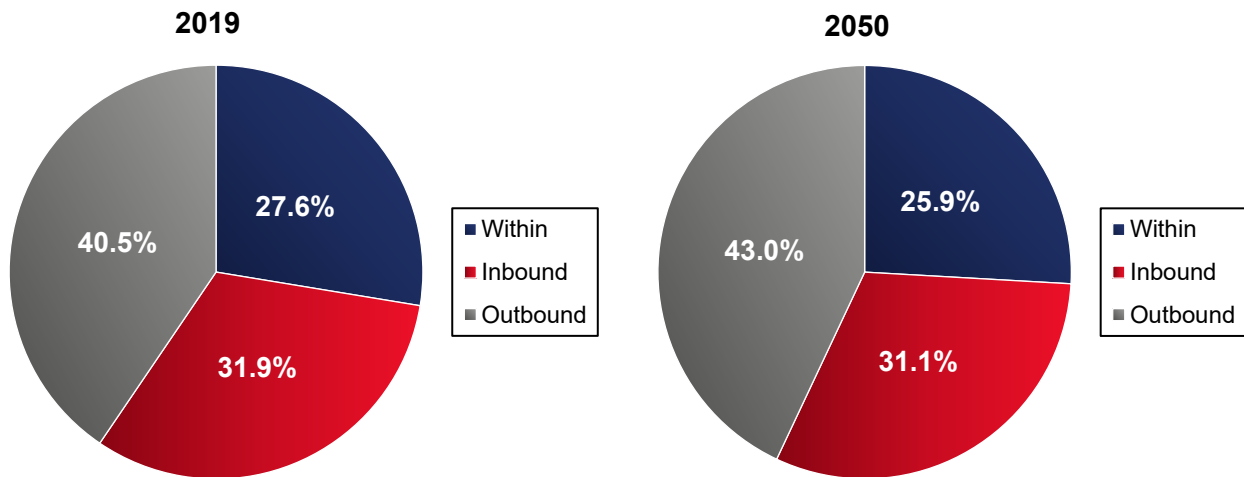
Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.

Figure 5 Freight Flows by Value—2019 and 2050 (Billions of Dollars)



Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.

Figure 6 Freight Direction by Tonnage



Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.

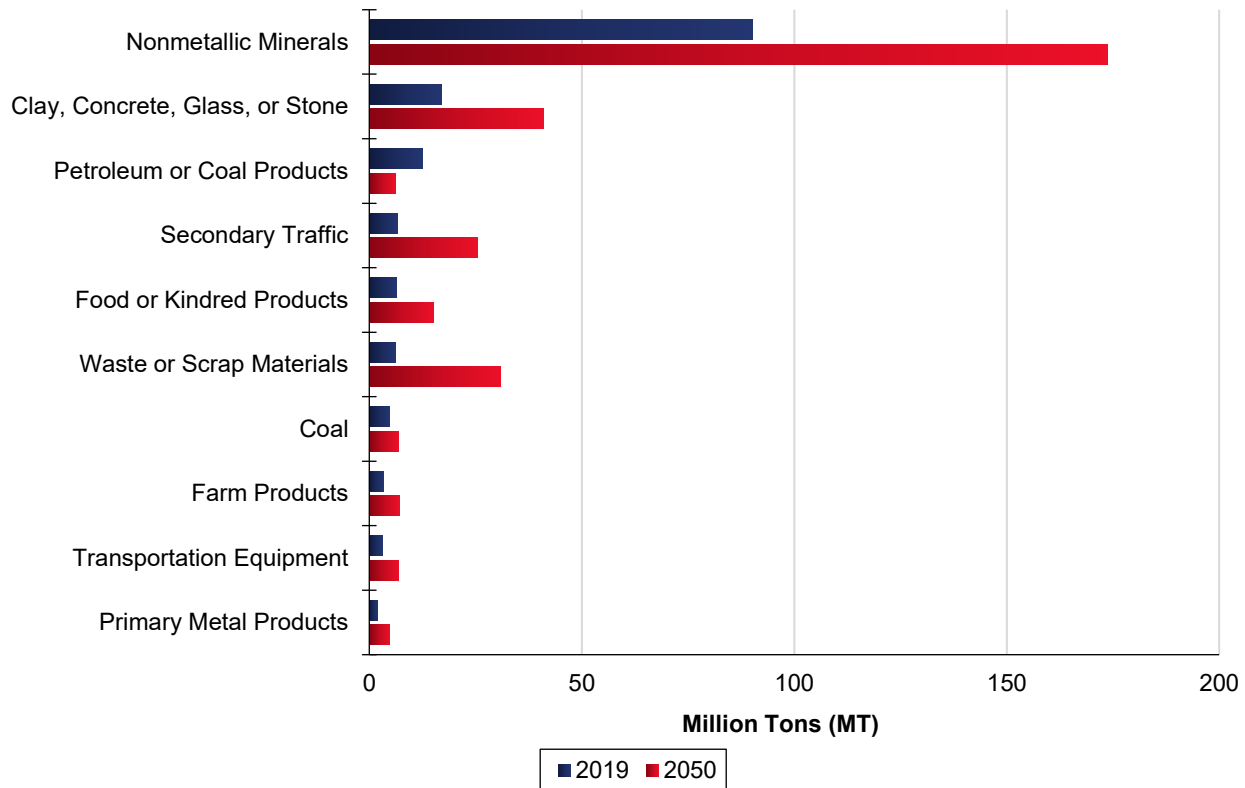


4.0 Top Commodities & Trade Partners

The AAMPO region’s top commodities by tonnage—nonmetallic minerals and clay, concrete, glass, or stone¹—are expected to remain dominant through 2050, while others like petroleum or coal products are projected to decline. By contrast, secondary traffic², waste or scrap materials, and food or kindred products are projected to grow significantly. By value, transportation equipment and miscellaneous manufacturing products lead.

The AAMPO region maintains strong domestic and international freight connections. Mexico is expected to remain the largest international trading partner, accounting for \$5.3 billion in inbound and \$3.2 billion in outbound freight in 2019, with both expected to nearly triple by 2050. Trade with Mexico is expected to grow significantly from 149.5 million tons and \$207.7 billion in 2019 to 353 million tons and \$603.2 billion by 2050. Trade with Canada, though smaller, is also projected to increase from 64.4 million tons and \$47.3 billion in 2019 to 84.7 million tons and \$82.3 billion in 2050. Flows from states like California, Illinois, and Louisiana dominate by both value and tonnage. These forecasts were developed for the 2019 base year. As of 2025, there has been significant volatility in international trade as industries respond to the various tariffs imposed by the U.S.

Figure 7 Top Commodities by Tonnage (2019 & 2050)



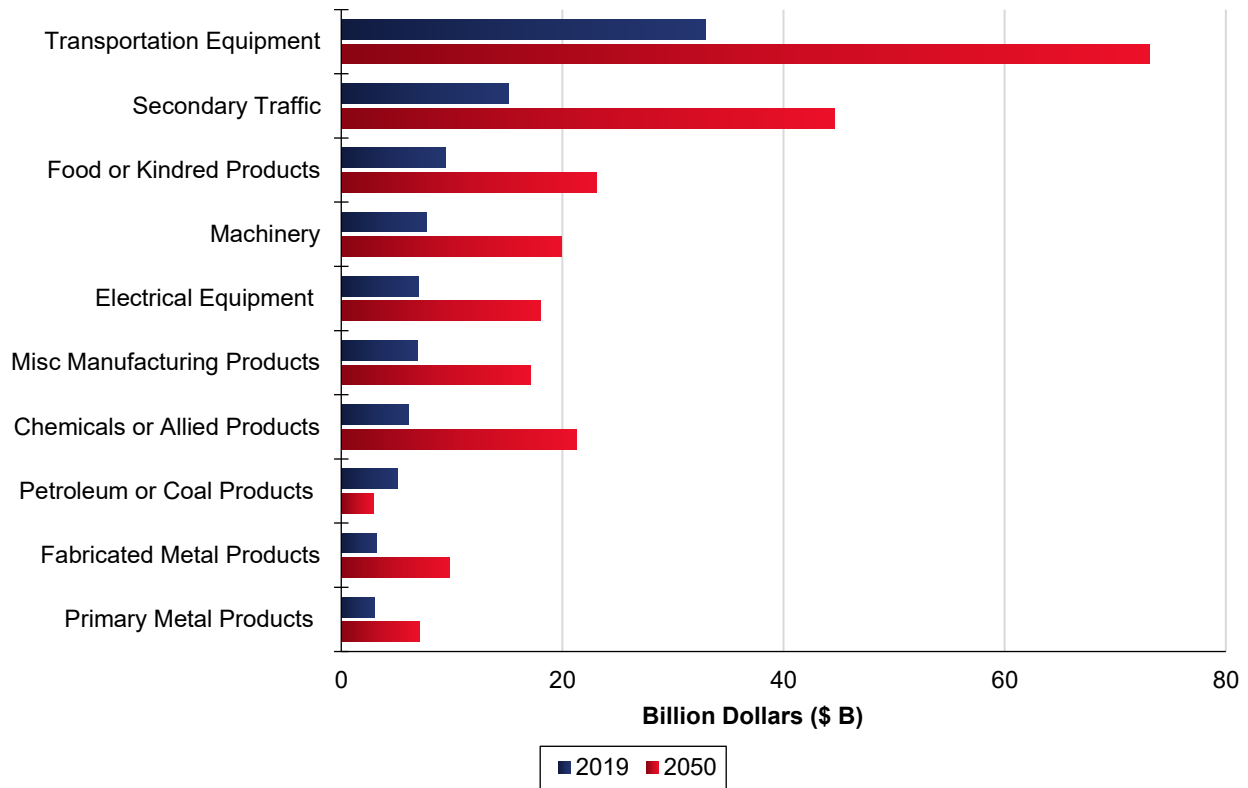
Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.

¹ These materials are primarily used for construction and other manufacturing uses.

² Secondary traffic represents a mix of commodities that move in dry van trucks from warehouses and distribution centers or in containers from rail intermodal facilities or from air cargo facilities.



Figure 8 Top Five Commodity Types by Value (2019 & 2050)



Source: TRANSEARCH, Waybill, USA Trade Online, Enverus. Analysis by Cambridge Systematics.



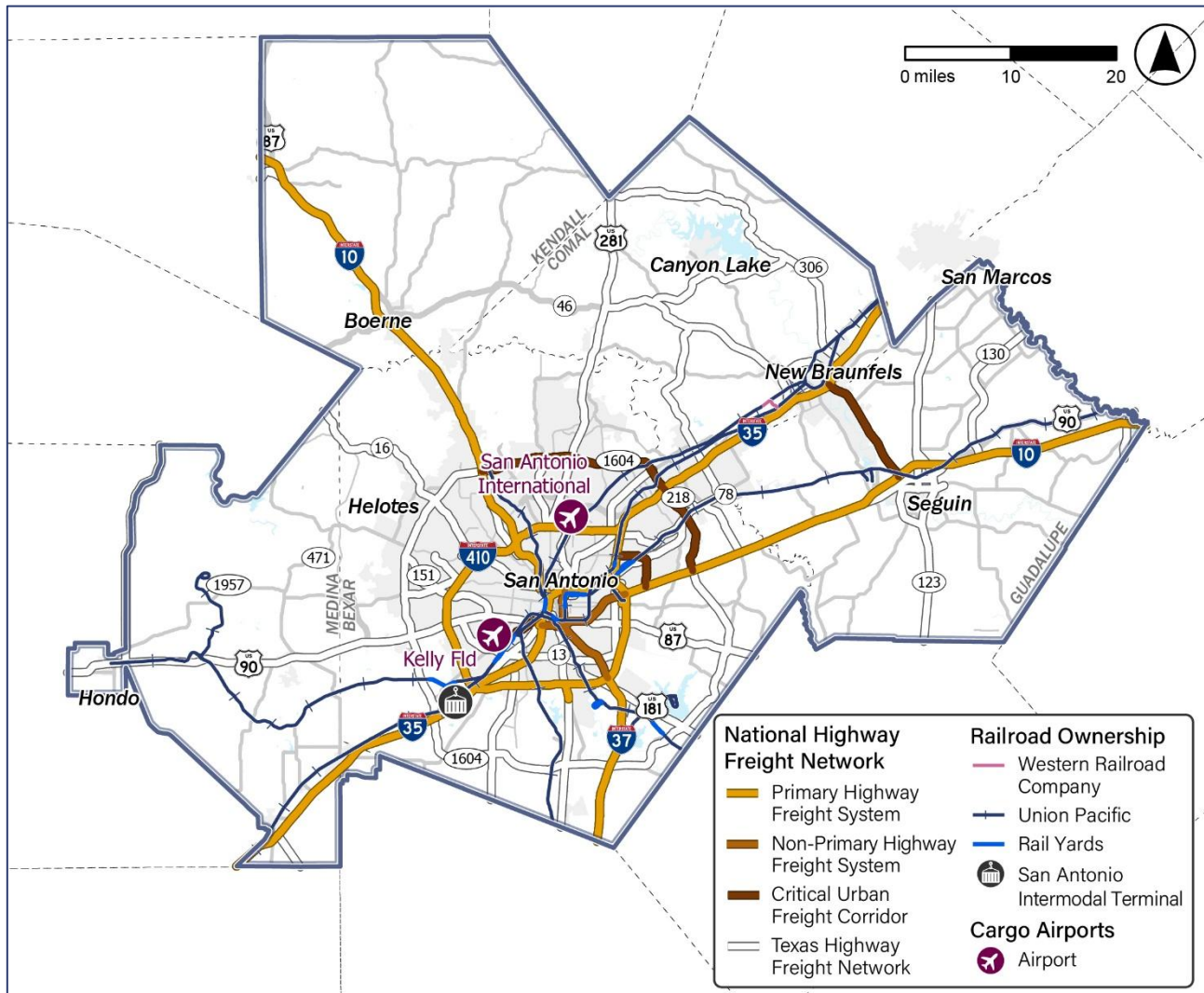
5.0 Freight Network Assets

The AAMPO region's freight network is a multimodal system composed of highways, railroads, airports, and pipelines. The highway system includes 968 miles of the Texas Highway Freight Network (THFN), with critical corridors like IH-10, IH-35, and Loop 410 forming the backbone of regional freight movement. These corridors are designated under various Federal and state programs, including the National Highway Freight Network and Critical Urban Freight Corridors, ensuring their strategic importance in freight planning. However, the region lacks designated Critical Rural Freight Corridors, which may limit connectivity in less urbanized areas.

Rail infrastructure is primarily owned and operated by Union Pacific (UP), which holds most of the 358 miles of active track in the region. BNSF and several shortline operators also provide service, with key facilities like the San Antonio Intermodal Terminal, operated by Union Pacific, and BNSF's Cadet Yard supporting intermodal (containerized) and bulk freight. The AAMPO region has 613 at-grade rail crossings, which can pose safety and congestion challenges. On the aviation side, San Antonio International Airport (SAT) and Kelly Field (SKF) are major cargo hubs, with SAT handling the majority of air freight. These assets collectively support the region's role as a logistics and manufacturing hub, but their concentration in specific corridors and ownership by a few entities introduces vulnerabilities.



Figure 9 AAMPO Region Multimodal Freight Network



Source: TxDOT Roadway Inventory, 2023; Texas Highway Freight Network, 2023. TxDOT, Texas Railroads, 2024. FAA Open Data GIS Portal, Available at: <https://adds-faa.opendata.ArcGIS.com/datasets/faa::airports-1/about>



7.0 Needs & Vulnerabilities

The AAMPO region faces a range of freight system challenges identified through data analysis, reviewing previous plans and studies, and by stakeholders. Key bottlenecks exist at major interchanges like IH-35 and IH-10 (Figure 11), where high truck volumes and limited capacity create delays. Safety concerns are also prominent, with frequent truck-involved crashes and flood-prone areas threatening reliability. Environmental concerns are also central to the region’s freight planning. Flood risks are rising due to increased instances of severe weather, and lower-income communities near major freight corridors often bear the brunt of noise, air pollution, and safety hazards. The region also suffers from a shortage of truck parking and gaps in intelligent transportation systems (ITS) capabilities, especially in rural areas. Rail connectivity, while vital, is limited by private infrastructure ownership and capacity constraints. Addressing these needs requires coordinated investments in technology, safety, and resilience to ensure a more efficient freight system.

“Our largest inhibitor to addressing known issues in the city with rail crossings is connecting with and coordinating with UP. Having increased or coordinated support from our regional and state agencies would be very helpful as we move forward.”

- Freight Industry Forum Comment

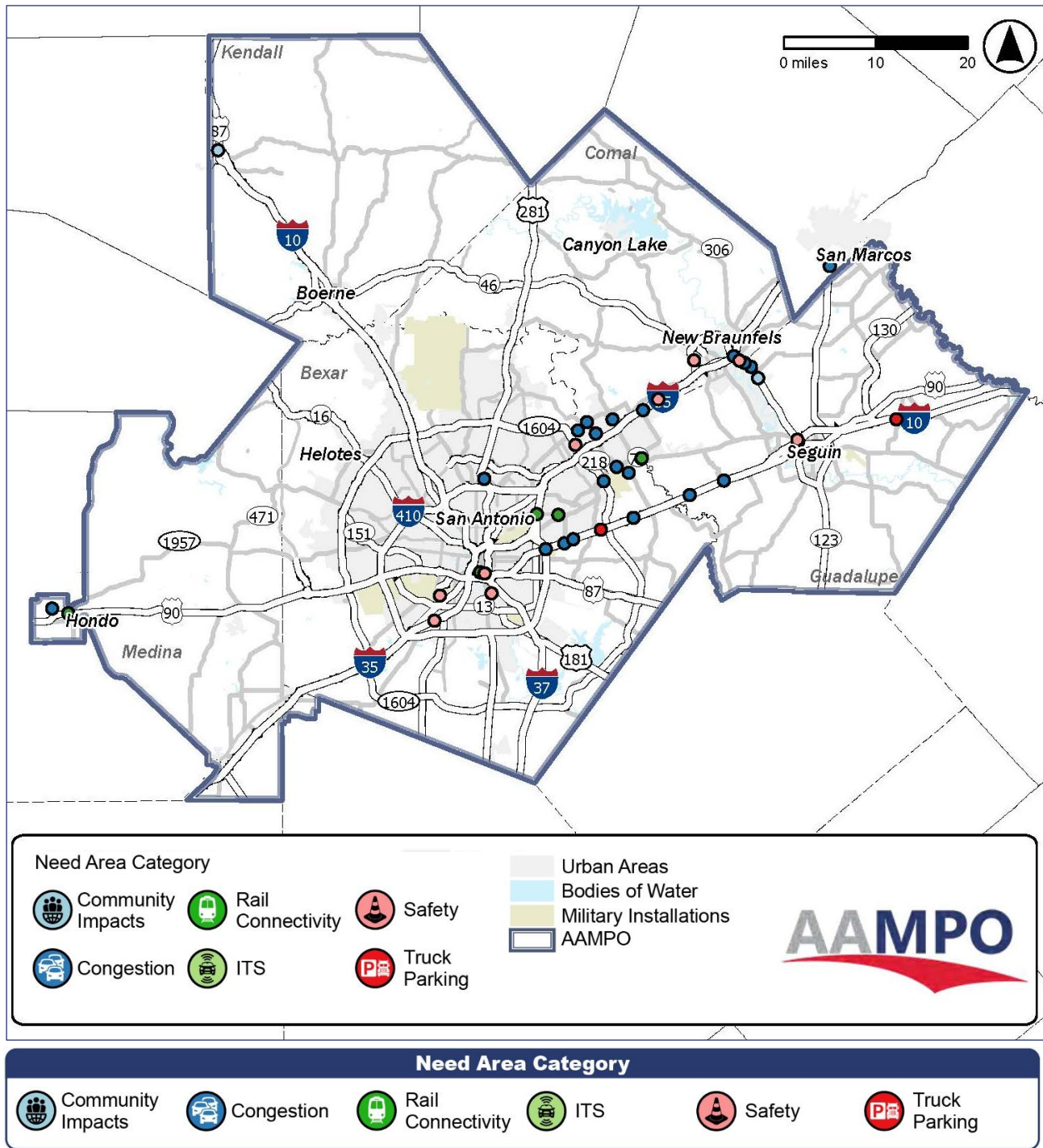
Key needs as identified via the study’s review of previous planning efforts and outreach are as follows in Table 1.

Table 1 Key Needs Identified from Review of Previous Planning Efforts and Outreach

Need Area	Key Needs
Congestion/ Efficiency	The 2018 TFMP and Texas Delivers 2050 (TD2050) identify major freight congestion at interchanges like IH-35 and IH-10. Stakeholders reinforced that delays are a top concern for freight operators. Both plans call for capacity expansion, reconfiguration, and deployment of ITS technologies like closed-circuit television (CCTV) and traffic management systems to improve freight flow.
Safety	The San Antonio Freight Study and Mobility 2050 Metropolitan Transportation Plan (MTP) highlight frequent truck crashes and flood-prone areas, issues echoed by survey participants who cited roadway safety and enforcement challenges. Recommendations include better signage, speed enforcement, upgraded infrastructure, and improved drainage to enhance safety and reliability.
Environment/ Community Impact	The Climate Adaptation Plan calls for resilient infrastructure to address flood risks on freight corridors, while the Equity Study underscores the disproportionate impacts of freight on low-income and minority communities. Stakeholders added that noise and emissions from freight corridors remain pressing concerns. Solutions include pedestrian safety upgrades, drainage projects, and improving air quality by reducing bottlenecks and idling.
ITS and Technology	The Technology and Operations Plan highlights rural ITS and fiber gaps that reduce visibility into freight system performance. Technology such as dynamic message signs or freight priority signals can be used to address inefficient movements to and from freight generating hubs. Stakeholders noted that greater investment in ITS would also support future deployment of connected and electric freight vehicles.
Truck Parking	The Statewide Truck Parking Study finds major parking shortages along IH-35, IH-10, and IH-45, recommending expanded facilities and amenities. The issue was reinforced repeatedly by trucking professionals who identified insufficient and poorly located facilities as a significant barrier to operations.
Rail Connectivity	The Texas Rail Plan stresses rail's role in freight efficiency, and stakeholders highlighted rail crossing delays and capacity constraints as persistent issues. The BNSF Cadet Yard, which opened in 2016, has helped reduce congestion and support regional freight mobility. Priorities include rail upgrades, new lines, intermodal expansion, crossing safety, and stakeholder collaboration.



Figure 11 Key Areas of Need Identified by Freight Stakeholders



Source: AAMPO, Cambridge Systematics



8.0 Policy & Program Strategies

To meet future freight demand and address current system vulnerabilities, AAMPO recommends a mix of short- and long-term freight policy and program strategies. Short-term actions focus on enhancing operational efficiency and safety, such as addressing the acute shortage of truck parking, expanding rural ITS capabilities, and redesigning intersections with high truck volumes. These steps are intended to provide immediate benefits to freight operators, improve travel time reliability, and reduce the risks of crashes on major freight corridors.

In the long term, AAMPO envisions a freight system that is more resilient, multimodal, and sustainable. Investments in intermodal connectivity will improve the utilization of truck-to-rail movements, while new EV charging and hydrogen fueling infrastructure will support decarbonization of the freight sector. Flood-prone areas should be hardened against future climate impacts with elevated roadways and stormwater mitigation. These strategic interventions will support the region's thriving industry while protecting public health and the environment.

Freight policy and program strategies were ranked by importance and prioritized by implementation timeline by the AAMPO Freight Study Oversight Committee, discussed in more detail in the full Final Plan. This input was used to inform the priority and potential timeline of implementation presented in Table 2. A first implementation step is included alongside each strategy. The cost field represents the relative cost of pursuing a strategy:

- \$: Staff time
- \$\$: Study or additional scope to planned study
- \$\$\$: Capital project

These cost estimates also serve as a proxy for the amount of time a strategy from this menu would take to implement. Additionally, in general, policy strategies can be implemented more quickly than program strategies. For each potential strategy, the first implementation step is an action that could be initiated within the next year to advance or explore the strategy. These steps focus on actions AAMPO can lead, although full implementation of the strategy may require leadership or participation from partners.



Table 2 **Ranked Policy and Program Strategies**

Rank	Category	Strategy	Type of Strategy	Cost	First Step(s)
1	Safety	Coordinate with rail partners to identify mutually beneficial improvements that eliminate at-grade crossings, reduce at-grade crashes, minimize roadway delays from blocked crossings, and address steep crossing profiles.	Program	\$	Engage rail partners during scoping and delivery of Regional Railroad Crossing Study to encourage active partnership from industry.
2	Congestion & Efficiency	Prioritize future bridge clearance improvements based on oversize truck volume and providing alternatives to currently used routes.	Program	\$	Update project evaluation criteria and engage TxDOT Freight Branch to routinely receive OS/OW route data.
3	Congestion & Efficiency	Deploy bridge height safety warning detection systems to prevent bridge strikes and communicate safe routes to drivers.	Program	\$	Conduct a regional inventory of bridge strike incidents to prioritize locations for targeted investments.
4	Congestion & Efficiency	Coordinate with municipalities to align local truck routes and truck restrictions across municipal boundaries.	Policy	\$	Request truck route or restriction documentation from cities and counties to examine consistency at boundaries.
5	Safety	Identify location-specific strategies to reduce or mitigate truck-involved crashes, especially those related to speed or work zones.	Program	\$\$	Include truck-specific analysis in the Best Practices for Coordinating of Transportation Construction Activities effort.
6	Truck Parking	Facilitate development of truck parking locations to accommodate rest breaks during long-haul trips as well as short-term staging for distribution activity and overnight parking for local truck drivers.	Program	\$\$	Complete Regional Truck Parking Study.
7	Congestion & Efficiency	Improve rural freight safety and connectivity by identifying and improving a network of north-south and east-west corridors.	Program	\$\$	Include truck connectivity analysis in Regional Thoroughfare Plan and subregional studies.
8	Congestion & Efficiency	Ensure future projects and cost estimates consider needs of freight vehicles such as sufficient bridge clearances, lane and shoulder widths, and access ramp lengths.	Policy	\$	Incorporate findings from the Regional Freight Study in project development process for projects off the THFN.
9	Congestion & Efficiency	Establish unified curb management best practices in the AAMPO region.	Policy	\$\$	Review municipal curb management policies and provide guidance for accommodating truck deliveries.
10	Congestion & Efficiency	Include considerations to better accommodate oversize/overweight vehicles in future improvements to connecting roadways.	Policy	\$\$\$	Compare corridors with high OS/OW traffic from Regional Freight Study to planned projects, with a focus on locations off the Texas Highway Freight Network.
11	ITS & Technology	Improve truck movement to and from freight generators and intermodal facilities, such as queuing areas,	Program	\$\$\$	Include analysis of access to freight generators in the upcoming Bottleneck Study,



Rank	Category	Strategy	Type of Strategy	Cost	First Step(s)
		dynamic message signs, truck parking availability signs, and freight priority signals.			identifying which corridors need freight-specific technology.
12	Funding & Finance	Incorporate freight factors in project prioritization process, including investment on intermodal connectors.	Policy	\$	Update project evaluation criteria and prioritization framework using data acquisition and maintenance plan from Regional Freight Study.
13	Funding & Finance	Establish a freight network to focus investments on the highway system.	Policy	\$	Coordinate with TxDOT Freight Branch to refine THFN, select new Critical Urban Freight Corridors, and advocate for Critical Rural Freight Corridor candidates.
14	Rail Connectivity	Collaborate with rail partners to identify opportunities to increase rail utilization and reduce highway demand.	Policy	\$	Meet with rail providers to understand appetite for additional terminals and service and continue to engage industry through FAC.
15	Community Impact	Identify likely future industrial land uses and evaluate adequacy of roadway network accessing them.	Policy	\$	Meet with economic development, municipalities, and industry to improve projections of future industrial uses in long-range planning and travel demand modeling.
16	Community Impact	Provide guidance to municipalities on a regional strategy to preserve industrial land use while mitigating community impacts.	Policy	\$\$	Facilitate industry forum with representation from municipalities to educate stakeholders and gather information across sectors.
17	Truck Parking	Collaborate with TxDOT to assess feasibility of reopening closed truck parking facilities.	Program	\$	Meet with TxDOT Maintenance Division to determine why rest areas were closed and initial view of feasibility to reopen.
18	Community Impact	Evaluate impact of freight movement to air quality and identify strategies to mitigate emissions from bottlenecks and idling.	Program	\$\$	Study freight emissions hot spots and potential strategies to reduce emissions at these locations.
19	Congestion & Efficiency	Coordinate with air partners to identify and address roadside access needs to air cargo facilities.	Program	\$	Engage airport and logistics partners in FAC and during long-range plan development.
20	Congestion & Efficiency	Conduct recurring coordination meetings with Joint Base San Antonio and Martindale Army Aviation Support Facility to maintain efficient access to military facilities.	Policy	\$	Engage military stakeholders in FAC and during long-range plan development.



9.0 Conclusion

The AAMPO region is a critical freight hub for Texas and the Nation. Rapid population growth, increasing freight volumes, and shifts in industrial activity present both opportunities and challenges, a trend that is also seen nationally and globally. This Regional Freight Study provides a data-driven foundation to guide the region's response. The strategies identified here are designed to be flexible and scalable, enabling AAMPO and its partners to adapt to future demand while minimizing risk and cost. AAMPO can support efficient and safe goods movement in the region by prioritizing and funding infrastructure investments, coordinating policies across jurisdictions, and ensuring freight needs are integrated into long range planning processes.

This is AAMPO's first comprehensive freight planning effort, representing an important step toward institutionalizing freight into the MPO's broader transportation decision-making process. Historically, freight has not been systematically included in MPO planning due to limited resources, lack of Federal mandates, and the cross-jurisdictional nature of freight movement. Through this study, AAMPO has established mechanisms to change that, integrating freight considerations into long-range planning, project prioritization, and stakeholder engagement. A cornerstone of this effort is the creation of a Freight Advisory Committee (FAC), which will provide a sustained platform for industry input and policy guidance moving forward. The FAC will continue to meet regularly following the conclusion of the Regional Freight Study and will advise and support on the development and implementation of freight-related plans, programs, and investment strategies.

Looking ahead, success will depend on sustained collaboration across agencies and jurisdictions. Investments must align with shared goals for economic vitality, environmental sustainability, and social community impact. With this plan, and with freight now fully embedded in AAMPO's planning processes, the region is well-positioned to support a safe, efficient, and forward-looking freight network that meets the needs of today's economy and tomorrow's challenges.

