

CAPITAL - ALAMO CONNECTIONS STUDY

EXECUTIVE SUMMARY

February 2019



Study Rationale

Accelerated
Growth



San Antonio and Austin’s combined population in 2045 is forecasted to be comparable to that of the DFW Metroplex today.

Do we currently have a mobility network that could address such population growth?

Emerging
Megaregion



The growth of Austin, San Antonio and the communities in between enhance the notion of a single Austin-San Antonio corridor of development.

How can this growth be leveraged towards better economic and funding opportunities?

Urgent
Demands



With the 3rd most congested roadway in the state being I-35 in Downtown Austin, and with 25 other Top 100 Congested roadways, there is a need to address current mobility concerns.

How do we address congestion along our major roadways?

Study Partners

AAMPO and CAMPO have a rich history of coordination on transportation related efforts. These efforts are documented as far back as 1996 with discussions for regional planning of future corridors. Currently, the MPOs coordinate on all major planning efforts - most notably - their Arterial Thoroughfare Plan Updates and Long Range Transportation Plans.

The Capital-Alamo Connections Study partnership grew out of the creation of a Executive Steering Committee that provided input and guidance throughout the study. The committee was comprised of the MPO Directors and staff, TxDOT Directors from Environmental Affairs Division (ENV) and Transportation Planning and Programming Division (TPP) as well as Transportation Planning & Development Directors and staff from the San Antonio and Austin TxDOT Districts. Coordination with other TxDOT divisions and sections, including Traffic Operations, Freight and Rail was also occurred as appropriate.



Broader coordination for multi-regional issues provides opportunities to:

- Maximize existing infrastructure.
- Increase efficiency.
- Improve service.
- Increase transportation options.

Study Schedule

The Capital-Alamo Connections Study was initiated in early 2017. The study had an original intended duration of one year, which was later extended to accommodate stakeholder interviews, MPO workshops and other coordination. Stakeholder outreach and coordination began in fall/winter 2017 and continued throughout the study. Stakeholder coordination included meetings with key transportation influencers and decision-makers in the region. Additionally, workshops were held with the MPOs' Transportation Policy Boards and Technical Advisory Committees of as well as leadership from both the MPOs and TxDOT.



What we heard...

Study partners identified stakeholders to participate in the analysis of the region's current conditions and to identify challenges/needs that could shape study recommendations. The team conducted a series of one-on-one interviews and workshops to get input on what might be feasible among all potential solutions. The total number of comments per category received through these interviews is shown in the graphic below. The most common issues and opportunities expressed by stakeholders were: Use of technology, increase in local transit services, and high-way improvements.

CHALLENGES



- Making mobility options convenient
- Political will and capital
- Physical constraints
- Hurdles to cooperation
- Existing system connectivity



- Better coordination with freight industry
- New funding strategies
- Cultural shift in mobility preferences
- Project delivery processes
- Inconsistent policies



- Uncertainty about the future
- Defining infrastructure requisites
- Public- Private Partnerships
- Accelerated technology progression
- Public perception

NEEDS

- Multimodal options
- Optimization of existing facilities
- Improved regional connectivity
- Creative funding solutions
- Flexible infrastructure

- Land use and transportation alignment
- State investment & Federal funding
- Positive growth outlook
- Corridor preservation
- Consistency in priorities

- More understanding of new technologies
- Implementation of new technologies
- More coordination with industry
- Consideration of potential implications in existing infrastructure

COMMENTS

205

192

88

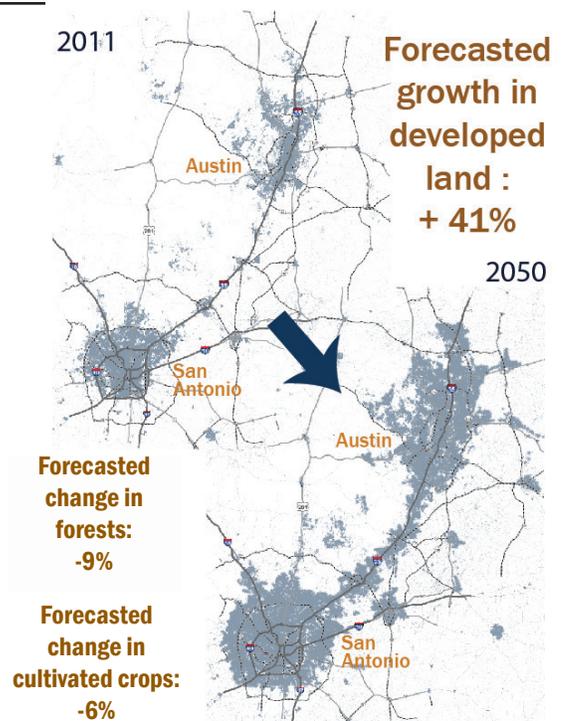
As of April 20, 2018

Regional Growth Patterns

To better understand regional growth patterns and movements, data related to population, land use conditions, passenger and freight were obtained from various sources and analyzed in terms of their current as well as future (2050) magnitudes. The graphics that follow summarize key findings from these analyzes.

According to the ESRI* Green Infrastructure Application, the study area's currently undeveloped land will see significant change by the Year 2050. The percent of land covered by housing and business development will increase due to high growth on the region. New developed lands are forecasted to concentrate along the I-35 corridor with notable changes in and around the localities of San Marcos and New Braunfels as well as the Austin and San Antonio metro areas.

*ESRI is an international supplier of geographic information system (GIS) software, web GIS and geodatabase management applications



Regional Movements

I-35

Analysis of trips from ramp to ramp along I-35 depicts a high number of local and short movements, especially in Austin and San Antonio.

A significant number of trips only use I-35 to travel one or two interchanges.

North Austin

Around 20% of the trips in Round Rock travel only to the next ramp

South Austin

Ramps are used mostly for local trips. However, they also generate trips travelling as far as Downtown San Antonio and Round Rock

Selma New Braunfels

Trips mostly travel to North San Antonio (Loop 1604 & I-410 N)

North San Antonio

36% of trips that start at Loop 1604 only travel to I-410 N

Dwtwn San Antonio

73% of trips from W. Cesar Chavez travelling north travel for 2 interchanges. 47% of those travelling south only go to US 90

US 281

Travel on US 281 outside of San Antonio appears to serve longer-distance travel.

Johnson City

Significant number of trips on US 281 go from US 290 N to US 290 S and vice versa

Bulverde

Around 50% of the trips entering at FM 1863 NB exit at SH 46

San Antonio

Most of the San Antonio Area northbound trips exit at I-410 N

SH 130

Analysis of destinations for trips originating at each SH 130 interchange indicate heavy usage of the north end of the corridor.

North Austin

A large number of the trips originating north exit at SH 45

South Austin

SH 71 attracts the majority of trips from both directions

Lockhart

The majority of the trips getting on the corridor past SH 21 are headed to I-10. 50% of trips starting at US 183 end at SH 142

A significant number of **weekday trips** that start **within** the Austin and San Antonio metro areas **remain local** to those areas.

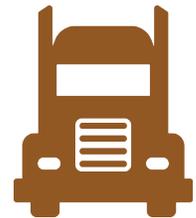
Weekday trips originating in communities like **San Marcos and New Braunfels tend to travel** to nearby communities

The number of **trips headed outside** the Austin and San Antonio metro areas are similar on **weekdays and weekends**.

Results suggest some of the congestion on these main corridors is a response to lack of arterial connections. Local improvements and alternatives could achieve much in addressing regional demands.

13%

of freight entering  North of Austin travels through the entire region.



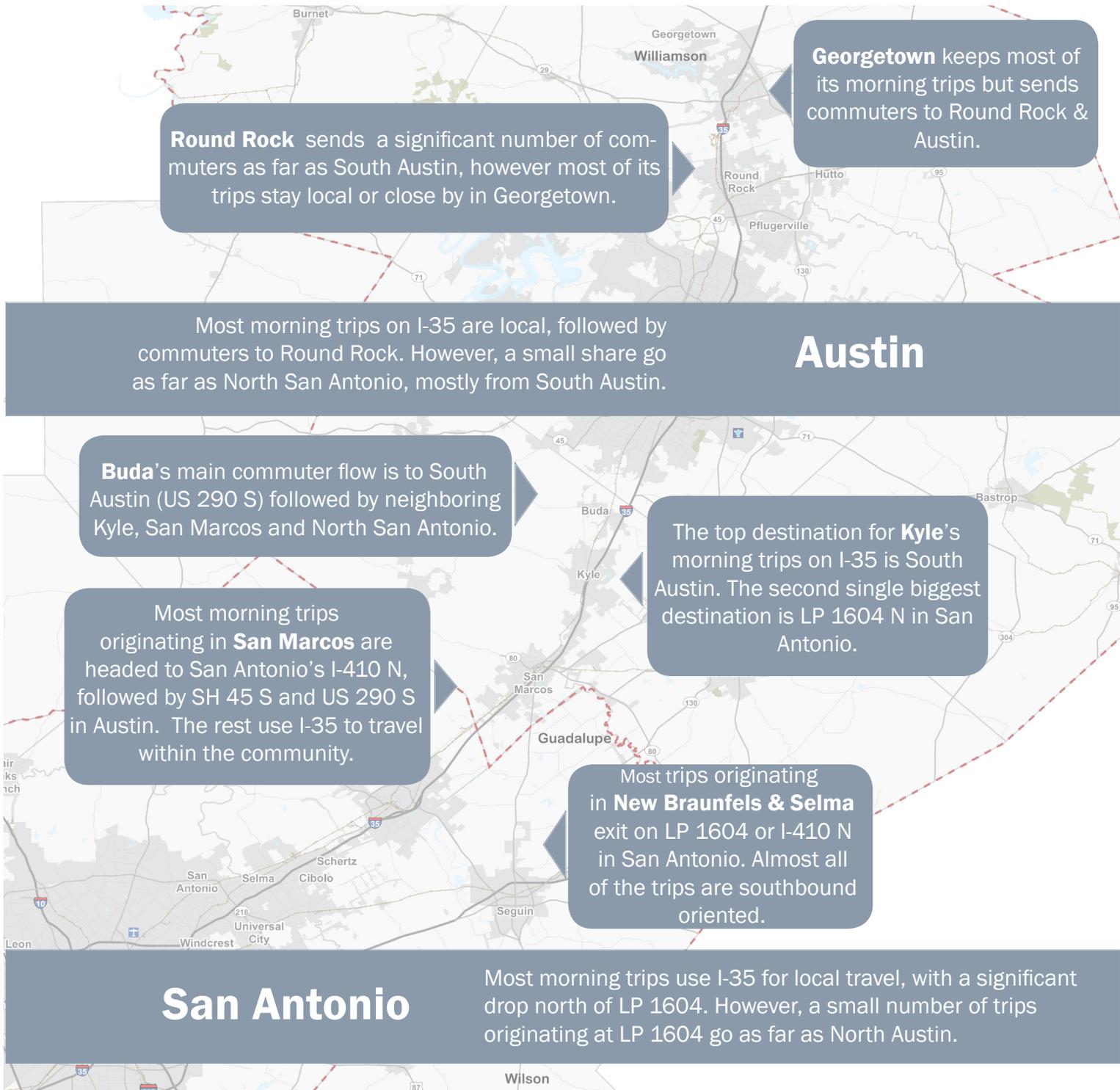
Up to 82% is headed to or stops in the study area.

22%

of freight entering  South of San Antonio travels through the entire region.

Where are people commuting to?

To identify regional needs and potential connectivity opportunities, information on trips travelling along I-35 every weekday morning between the hours of 6 am and 10 am was analyzed. Corridor movements are shown in the following results:



Sources: 5. Streetlight GPS Data September 2017. JACOBS Graphics

Travel data suggests local trips contribute to congestion for commuter travel within the corridor. Therefore, implementing transportation solutions to provide alternative travel options for short trips would be beneficial.

First Joint MPO TPB Regional Workshop

On November 1, 2017, the Transportation Policy Board (TPB) members from both the AAMPO and the CAMPO were invited to participate in a joint regional visioning workshop.

Purpose



Presenting an overview of the early findings of the study and discussing an overall Long-Range Regional Vision

WHAT DID WE NEED TO DO?

Needs and challenges faced by both MPOs in terms of infrastructure, technology, and policy improvements

Structure

AAMPO

+

CAMPO
CAPITOL BREEZ METROPOLITAN
PLANNING ORGANIZATION
CENTRAL TEXAS

+



26 TPB members in attendance

20 AAMPO + 6 CAMPO
56 additional attendees & representatives

WHAT DID WE ACCOMPLISH?

A SET OF NEEDS AND CHALLENGES TO BE USED AS INPUT TO DRAFT IMPROVEMENT STRATEGIES

MPO TAC Workshops

On February 23 and March 5, 2018, the Technical Advisory Committee (TAC) members from AAMPO and CAMPO were invited to participate in coordinated workshops with TxDOT.

Purpose



Presenting results and analysis of the first joint TPB workshop and gathering detailed input on potential infrastructure, policy, and technology recommendations

WHAT DID WE NEED TO DO?

Present results of the stakeholder outreach efforts, identify potential infrastructure, policy and technology recommendations.

Structure

AAMPO

+

CAMPO
CAPITOL BREEZ METROPOLITAN
PLANNING ORGANIZATION
CENTRAL TEXAS

+



33 TAC members in attendance

15 AAMPO + 18 CAMPO
19 additional attendees & representatives

WHAT DID WE ACCOMPLISH?

A SET OF TECHNOLOGY, POLICY, AND TECHNOLOGY CONSIDERATIONS FOR THE REGION

Joint MPO TAC Workshop

In order to ensure the relevancy and efficacy of a set of proposed strategies, a joint Technical Advisory Committee (TAC) workshop was held on October 2nd, 2018, allowing TAC members from both MPOs to review and refine the universe of strategies proposed at the time.

Purpose



Advance cooperation efforts and strive to accomplish a joint vision through complementary regional strategies

WHAT DID WE NEED TO DO?

Review main topics of stakeholder outreach

Review technical analysis work

Refine strategies and tactics based on TAC members' technical and local knowledge

Ensure that strategies are relevant and feasible for both regions

Structure



28 TAC members in attendance

10 AAMPO + 18 CAMPO
32 additional attendees & representatives

5 Strategy-focused workshop groups

Regional Coordination	ICM & ITS	Modal Options	Priority Transportation Corridors	Arterial Improvements
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Tasked with review and refinement of proposed strategies and associated tactics by group.

WHAT DID WE ACCOMPLISH?

DEFINED 59 STRATEGIES AND 115 TACTICS FOR PRIORITIZATION BY TPBs

Main outcomes from each group discussion are included below

Regional Coordination	ICM & ITS	Modal Options	Priority Transportation Corridors	Arterial Improvements
<ul style="list-style-type: none"> - More regular coordination - More data sharing - More communication & interaction 	<ul style="list-style-type: none"> - Support ongoing initiatives - Be flexible so as to respond to technology changes - Accelerate implementation of these strategies 	<ul style="list-style-type: none"> - Emphasis on movement of people AND goods - More and better service - Better system integration 	<ul style="list-style-type: none"> - Coordinate with ICM & ITS strategies - Focus on connecting San Marcos & New Braunfels - Reference and support existing initiatives 	<ul style="list-style-type: none"> - Be mindful of local needs - Emphasize multimodality - Accelerate implementation of these strategies

Second Joint MPO TPB Regional Workshop

A joint Transportation Policy Board (TPB) workshop was held on December 5th, 2018 allowing members from both MPOs to prioritize the implementation timeframe of each strategy defined by the TACs during the previous workshop.

Purpose



Presenting the full set of proposed strategies to the TPB members for their consideration and prioritization

WHAT DID WE NEED TO DO?

Ensure that implementation timeframes for all strategies are feasible for both regions

Structure



21 TPB members in attendance

15 AAMPO + 6 CAMPO
34 additional attendees & representatives

WHAT DID WE ACCOMPLISH?

Participants expressed a general desire to advance strategies for all the groups and start implementation as soon as possible. However, participants were cognizant about potential challenges and how these might not allow progress in their preferred timeframe.

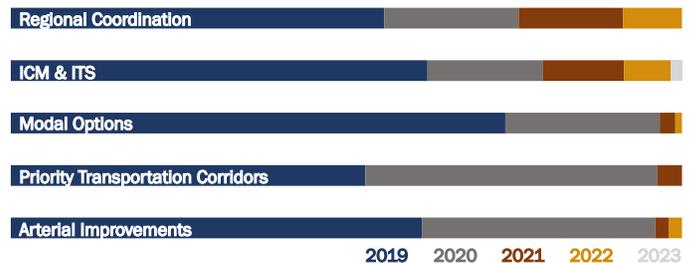
OTHER CONSIDERATIONS

- Electric vehicle charging stations need to be considered as part of the multimodal efforts
- Improvements triggering economic development need additional consideration to minimize congestion
- A more detailed analysis is needed to address the potential impacts of building additional highway capacity near the City of New Braunfels, Seguin and the center of Guadalupe County. Especially if these entail potential additional connections between SH 130 and I-35

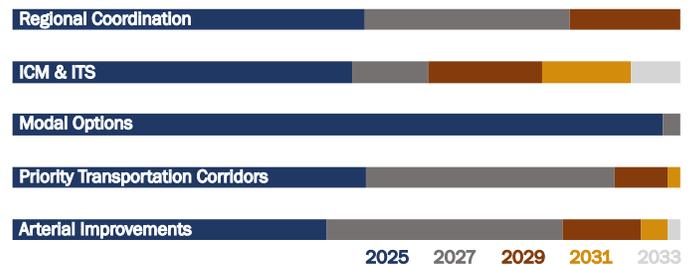
The stacked bar charts to the right depict the trend of the results from the strategies prioritization workshop. The length of each bar segment represents the number of people favoring each strategy group per year as the preferred implementation time for its strategies.

In general, there is a desire to have strategies move forward as soon as possible within each timeframe.

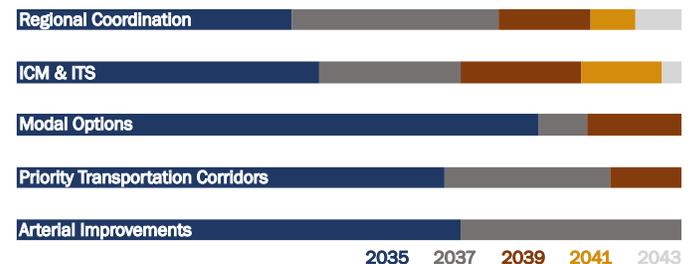
SHORT TERM



MID TERM

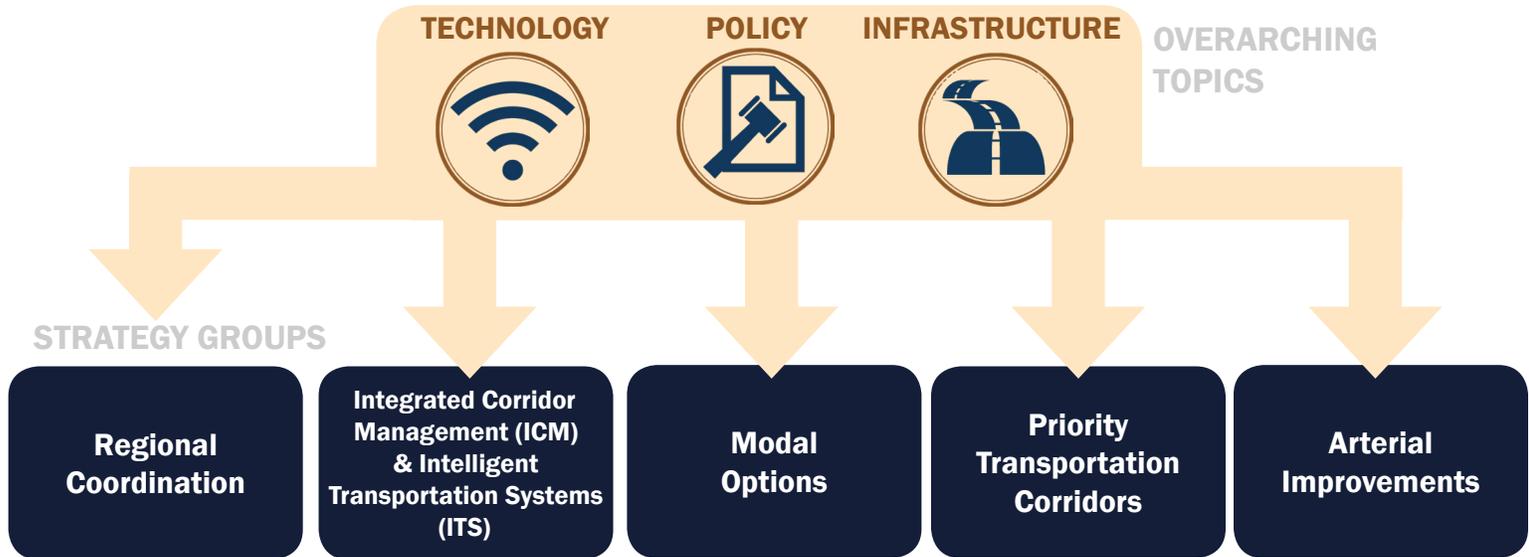


LONG TERM



Capital-Alamo Connection Study Strategies

Feedback gathered in stakeholder engagement efforts from the Capital Alamo Connections Study was grouped into 3 main overarching themes: Technology, Policy and Infrastructure. Additionally, a technical analysis identified five main areas of focus for solutions to address current needs.



Strategy Development

Strategies were developed by reviewing current transportation plans and programs from each MPO and local jurisdiction within the study area, incorporating input from the MPO Transportation Policy Boards and Technical Advisory Committees, and gathering ideas from local Stakeholders. The resulting strategies are organized into short-, mid-, and long-term implementation timeframes.



Study Strategies Table Structure

The following section provides detailed descriptions of the Capital-Alamo Connections Study Strategies. The graphic below provides the structure and definitions for the strategy tables.



Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Formalize interagency coordination efforts	Continue bi-regional cooperation on matters of common interest, particularly related to longer distance transport needs, by establishing a regular bi-regional update between MPOs		CAMPO, AAMPO, TxDOT, Cities, Counties, Transit Agencies	●	
	Draft a document to establish future shared goals				
	Identify potential “Early Win” projects that can encourage membership participation in additional efforts			●	
	Develop a coordinating body out of initial inter-agency coordination efforts				

OVERARCHING TOPICS
Refers to the three main themes defined during the outreach efforts: Technology, Policy, and Infrastructure. These overarching topics provide an additional framework for the implementation of the recommended strategies

RECOMMENDED POTENTIAL LOCAL PARTNERS
Identifies the expected agencies and stakeholders recommended to participate in the implementation of the identified strategies

STRATEGY COORDINATION
Denotes tactics which have been identified as requiring coordination with other strategy groups for optimal effectiveness

Regional Coordination Strategies

Transportation agencies use a range of alternatives to improve coordination while retaining jurisdictional control. Some of the benefits of regional coordination between agencies include: promoting the efficient use of local resources, creating consistent transportation solutions, and maximizing the strengths of existing agencies, among others.

Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Formalize interagency coordination efforts	Continue bi-regional cooperation on matters of common interest, particularly related to longer distance transport needs, by establishing a regular bi-regional update between MPOs		CAMPO, AAMPO, TxDOT, Cities, Counties, Transit Agencies		
	Draft a document to establish future shared goals				
	Identify potential “Early Win” projects that can encourage membership participation in additional efforts				
	Develop a coordinating body out of initial inter-agency coordination efforts				
Create a joint website to document coordination efforts	Share information about transportation efforts carried out by each agency		CAMPO, AAMPO, TxDOT		
	Publicize past coordination efforts and ongoing success				
Develop a bi-regional travel demand model	Hold workshops on regional growth assumptions and travel impacts		CAMPO, AAMPO		
	Track demographic and travel trends, as well as emerging demands				
Define bi-regional objectives for improvement of mobility and connectivity	Share performance measures and objectives		CAMPO, AAMPO		ICM & ITS
Define performance measures dealing with mobility between the regions	Develop combined performance measures that focus attention on cross-jurisdictional travel issues based on current regional performance measures.		TxDOT, CAMPO & AAMPO TACs		
Formalize an agreement to share planning data and shared performance measures among the two MPOs, local governments and transit agencies	Share current performance data and measurement approaches		CAMPO, AAMPO, TxDOT		ICM & ITS
	Share growth assumptions and regional travel demand model results				
	Define and track performance measures that are relevant to all communities, such as I-35 travel time reliability				
MID TERM (2025-2035)					
Create a policy-level cooperative body between both regions including representatives from all members of the Capital-Alamo Connections Study partnership.	Foster interlocal agreements between neighboring jurisdictions to develop shared transportation policies relevant to specific projects		CAMPO, AAMPO		
	Hold regular meetings of decision-makers from both regions to promote project level cooperation				

Regional Coordination Strategies, Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Implement bi-regional solutions to improve mobility and connectivity	Execute coordinated strategies for short- and long-range planning for projects of a bi-regional or bi-jurisdictional basis	 	CAMPO, AAMPO, Transit Agencies		
	Perform project prioritization process for bi-regional impacts				
Create a bi-regional technical committee focused on topics of shared concern	Focus on areas that affect both regions jointly, such as freight movement, rural transit, passenger rail, and emerging technologies	  	CAMPO, AAMPO, TxDOT	●	
	Facilitate conversations and agreements with public and private stakeholders to improve mobility in the region				
	Coordinate studies and shared planning documents related to specific transportation projects of mutual interest				
LONG TERM (2036-2045)					
Develop Combined Planning Documents	Collaborate on the development of a shared long-range transportation plan		CAMPO, AAMPO, Transit Agencies		Modal Options
	Facilitate continued partnerships with transit agencies across existing service boundaries				

ICM & ITS Strategies

Integrated Corridor Management (ICM) and Intelligent Transportation Systems (ITS) strategies provide guidance on how to make a more efficient use of current transportation infrastructure and make travel more reliable by relying on coordinated, multijurisdictional operations, which will be crucial to adapting to emerging technologies.

Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Coordinate Emergency Roadside Assistance Programs Throughout Region	Achieve continuous roadside assistance on I-35 corridor between San Antonio and Georgetown	 	TxDOT, CAMPO & AAMPO TACs		Regional Coord.
	Coordinate dispatching between operators in each TxDOT District and local jurisdictions				
Define regional priorities for corridor management	Establish an ICM and ITS Task Force to coordinate local Traffic Management groups and define regional priorities for emergency response as well as incident and construction management	  	TxDOT, CAMPO & AAMPO TACs		Regional Coord.
	Coordinate and develop interregional efforts related to emergency response and incident management, construction management, and ITS systems				
	Prioritize areas that would benefit from regional systems coordination				

ICM & ITS Strategies, Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Map existing and planned ITS systems, owners, and inter-agency agreements	Review ITS Master Plans for Austin and San Antonio Districts	 	TxDOT, CAMPO & AAMPO TACs		
	Review local systems maintained by major cities in the region				
	Identify gaps or incompatibilities between the systems				
Coordinate Austin and San Antonio District Transportation System Management & Operations (TSMO) activities	Find opportunities to coordinate plans between areas		TxDOT, CAMPO & AAMPO TACs		Regional Coord.
	Where TSMO coordination is required, establish procedures for engaging across jurisdictional boundaries			●	
	Share innovations and project successes between regions				
Identify data sources for operations performance measures dealing with mobility between the regions	Identify new or existing technologies that could enable mobility tracking between regions	 	TxDOT, CAMPO & AAMPO TACs		
	Identify existing road technologies and new technologies that support performance measure tracking				
Implement an Interregional, Integrated Corridor Management System for I-35	Develop corridor management strategies, such as active traffic management, traveler information systems, demand management, and incident management	 	TxDOT, CAMPO & AAMPO TACs		
	Engage stakeholders, including TxDOT Districts, local cities, emergency responders, and transit agencies in regular meetings and workshops			●	Regional Coord.
Coordinate regional travel information systems across jurisdictional boundaries	Provide relevant information for regional through-travel online, through device-based services (Waze, Google Maps, etc.), and on variable messaging signs	  	TxDOT, Working Groups	●	
	Extend the reach of broadcasted travel time comparisons on major facilities, such as I-35, US 281, and SH 130, targeting freight and passenger traffic decision points				
MID TERM (2025-2035)					
Support the pursuit of opportunities to fund or pilot innovative technology deployments for interregional mobility	Identify federal & private grant funding opportunities		TxDOT, CAMPO & AAMPO TACs		
	Continue the development industry relationships to pursue public-private partnerships				
	Consider the impacts of emerging technologies, such as freight mobility, passenger information systems, and incident management, and create Working Groups for each.				Regional Coord.
	Support local initiatives to establish pilot technology deployment programs				

ICM & ITS Strategies, Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Improve use of ICM during early coordination of construction activities and major planned disruptions across region	Alert travelers to disruptions of travel through the regions		TxDOT, Working Groups		
	Identify alternative routes and alert passengers of incidents using V2X (Vehicle-to-Everything) technologies				
Develop Regional Incident Management Plan and process for regular updates	Integrate existing plans from Capital and Alamo Area regions		TxDOT, Working Groups		
	Define protocols for coordinated incident response between regions				
	Enable 'Closest to' dispatching across jurisdictional boundaries				
Refine local ITS systems and coordinate operations with Traffic Management Centers	Promote ITS integration in new local roadway construction	 	TxDOT, Working Groups		Regional Coord.
	Develop agreements between local system owners and TxDOT				
Support data gathering for early deployment of connected vehicles systems along major travel corridors	Gather information on roadway conditions, vehicle speed, and traveler type in central repositories	 	TxDOT, Working Groups		
Create framework and opportunity to share operations data and coordinate monitoring & performance management targets	Develop data sharing agreements for archived operations data	 	TxDOT, Working Groups		Regional Coord.
	Align performance metrics				
	Make operations data available for short- and long-range planning				
LONG TERM (2036-2045)					
Establish redundancy in Regional Traffic Management Centers	Manage and coordinate ITS systems, incident response, integrated corridor management	 	TxDOT, Working Groups		
	Develop system interoperability and shared management capabilities				
Deploy technologies to support connected vehicle systems along major travel corridors	Use ITS systems to facilitate vehicle-to-infrastructure (V2I) and vehicle-to-everything (V2E) communication technologies	 	TxDOT, Working Groups		
	Provide information to connected vehicle operators on system status, traffic, and disruptions				
Use emerging technology to move people and goods within the regions	Implement pilot programs leading to full deployment of emerging technologies	 	TxDOT, Working Groups		
	Focus on improving safety and efficiency of travel in the region with connected and autonomous vehicle technology				

Modal Options Strategies

During stakeholder coordination efforts by CAMPO and AAMPO in partnership with TxDOT, Transportation Policy Board (TPB) and Technical Advisory Committee (TAC) Members suggested improving modal options throughout the region. Stakeholders stressed the importance of advancing local, commuter, and region-wide options for multiple transportation modes.

Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Implement Regional Intercity transit services	Broker new or additional intercity service, such as the Buda - Austin Commuter Route or CARTS - Interurban Coach Routes	 	CapMetro, VIA, ART, CARTS, Local Govts., TxDOT		Regional Coord.
	Implement a New Braunfels - San Antonio Commuter Transit Route				
	Conduct summits among transit providers. Identify and eliminate obstacles between urban and rural transit systems				
Further regular interregional transit cooperation	Annual coordination on intercity markets and service expansion plans		Cap-Metro, VIA, ART, CARTS		Regional Coord.
	Develop consistent policy goals and needs assessment methods to facilitate easier inter-agency bi-regional cooperation				Regional Coord.
	Technical knowledge transfer meeting for transit providers				Regional Coord.
	Maintain web links between all transit providers				
Discuss how the public sector could assist private companies to move freight more safely and efficiently	Discuss operational needs and opportunities		UP Rail, Trucking Companies, Shippers, TxDOT, CAMPO, AAMPO, Local Govts.		Regional Coord.
	Identify further opportunities to grade separate arterials and rail freight operations				Arterials
Consider coordination schemes to enhance freight movements throughout the region	Conduct regular re-evaluation of freight origins and destinations to adjust freight considerations in the mid-term		CAMPO, AAMPO, TxDOT and UP Rail		Regional Coord.
	Participate in freight-centric studies on long range freight bypass needs and truck parking facilities				
Establish a Transit Coordination Task Force focusing on service borders	Create rules for the sharing of ridership info and service adjustments		Cap-Metro, VIA, ART, CARTS		Regional Coord.
	Create web-based clearinghouse for long-term plans and services information				

Modal Options Strategies, Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Identify potential interregional joint transit service routes	Study potential end-to-end interregional transit service		Cap-Metro, VIA, ART, CARTS		Priority Corridors & Arterials
	Study potential interregional Park-and-Ride locations				Priority Corridors & Arterials
MID TERM (2025-2035)					
Expand regional commuter transit options	Support the establishment of additional fixed-route flex-schedule regional routes by rural transit providers per Alamo Area and Capital Area Transit Human Service Transportation Plans		CAMPO, AAMPO, ART, CARTS		
	Develop a funding strategy for megaregion rural transit.				
	Hold a bi-annual interregional discussion on service updates				Regional Coord.
Promote potential interregional bicycle routes and new long-distance bikeways	Connect regional bicycle networks along highways	  	TxDOT, CAMPO, AAMPO, Local Govts.		
	Coordinate regional bicycle routes with transit agencies for connectivity				
	Use regional technical partnerships to promote, fund, and construct interregional bike-way connections				
	Incorporate permanent bicycle and pedestrian count equipment into new bikeways				
Consider possible rail and trucking enhancements	Create truck parking information systems and develop parking supplies if needed that aligned with statewide plans		UP, TxDOT Districts, National Truck Stop Association, Local Govts.		Priority Corridors
	Support network enhancement for all modes				Priority Corridors & Arterials
	Develop a Regional Rail Strategy for the movement of people and goods				Regional Coord.
	Foster preservation of right-of-way along corridors				Arterials
LONG TERM (2036-2045)					
Establish an interregional Transit Coalition	Extend Rural Transit Coordination into an interregional Transit Coalition		Cap-Metro, VIA, ART, CARTS, TxDOT		
Participate in interregional coordination for rail freight relief efforts	Provide assistance as requested to private sector with implementation of their freight rail relief strategies		UP, Amtrak, TxDOT, AAMPO, CAMPO		
	If surplus rail freight capacity is created, discuss opportunities for alternative uses of increased rail capacity in the region				

Priority Transportation Corridors Strategies

Strategies were identified to help improve mobility along the three major north-south corridors in the region, I-35, US 281 and SH 130. No further strategies are recommended for SH 130 at the present time. The planned widening of SH 130 from SH 71 to SH 45 in Austin and existing capacity will accommodate anticipated future demands.

Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Enable future technology enhancements	Define minimum ITS requirements for major Priority Transportation Corridors	  	TxDOT, CAMPO, AAMPO		ICM & ITS, Arterials
	Introduce installation requirements for technology integration in new expansion projects along Priority Transportation Corridors				
	Leverage technology to help travellers effectively plan trips				
Support improvements that address local deficiencies along I-35	Determine I-35 frontage road segments operating deficiently		TxDOT, CAMPO, AAMPO	●	
	Inventory and evaluate I-35 ramps for optimal configuration and move forward with the delivery of an access ramp conversion program				
Complete requirements for expansion of I-35	Develop environmental and Preliminary Engineering for expansion of I-35 between the Austin to San Antonio metro areas	 	TxDOT, CAMPO, AAMPO	●	
Reduce safety concerns at local intersections with high crash concentrations along US 281	Implement safety improvements at local intersections in Bexar County		TxDOT, CAMPO, AAMPO	●	
	Determine and implement safety improvements at local intersections in Comal, Burnet and Blanco Counties				
MID TERM (2025-2035)					
Maximize I-35 frontage road efficiency	Continue the implementation of a frontage road operation and upgrade program		TxDOT, CAMPO, AAMPO	●	
Further the US 281 roadway structure update program	Construct a new Guadalupe River Bridge (SB)		TxDOT, AAMPO	●	
Increase capacity on US 281	Construct a 4-lane divided highway from the Comal County Line to the Burnet County Line.		TxDOT, AAMPO, CAMPO, Local Govts.		
	Support the implementation of the US 281 Improvement Program by ensuring the existing ROW supports ultimate construction needs.				
	Construct a 4-lane freeway in Comal County				
	Study the feasibility of Park and Pool locations along US 281 in Bexar, Comal and Blanco Counties				
Improve regional mobility west of Austin and San Antonio	Reconstruct the US 281 /SH 71 intersection as a free-flowing interchange		TxDOT, CAMPO		
	Reconstruct the US 281 /US 290 S intersection as a free-flowing interchange		TxDOT		

Priority Transportation Corridors Strategies , Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Increase safety on US 281	Develop interchanges at Mustang Vista Rd, Casey Rd, FM 311, Jumbo Evans Blvd, Rebecca Creek Rd and FM 306 in Bexar County	 	TxDOT, AAMPO, CAMPO, Local Govts.		
	Conduct a regional crash hotspot analysis every 5 years to evaluate safety concerns				
	Improve intersections with high crash histories including RM 473 West, RM 473 East, John Price Road, and RM 32				
LONG TERM (2036-2045)					
Increase I-35's person and freight throughput	Improve I-35 to accommodate higher demands		TxDOT, CAMPO, AAMPO		
Increase capacity on US 281	Construct a 4-lane freeway from FM 306 (North of Comal County Line) to SH 71 in Burnet County		TxDOT, Local Govts.		
Reorganize long-range traffic through City of Blanco	Develop long term solutions for traffic on US 281 through the City of Blanco				

Arterial Improvement Strategies

In workshops held with the TACs from both MPOs, stakeholders identified the limited availability of alternatives to I-35 for movement within the corridor. The following Arterial Improvement Strategies work to provide options for local movement and routing alternatives, especially in the event of an incident on I-35.

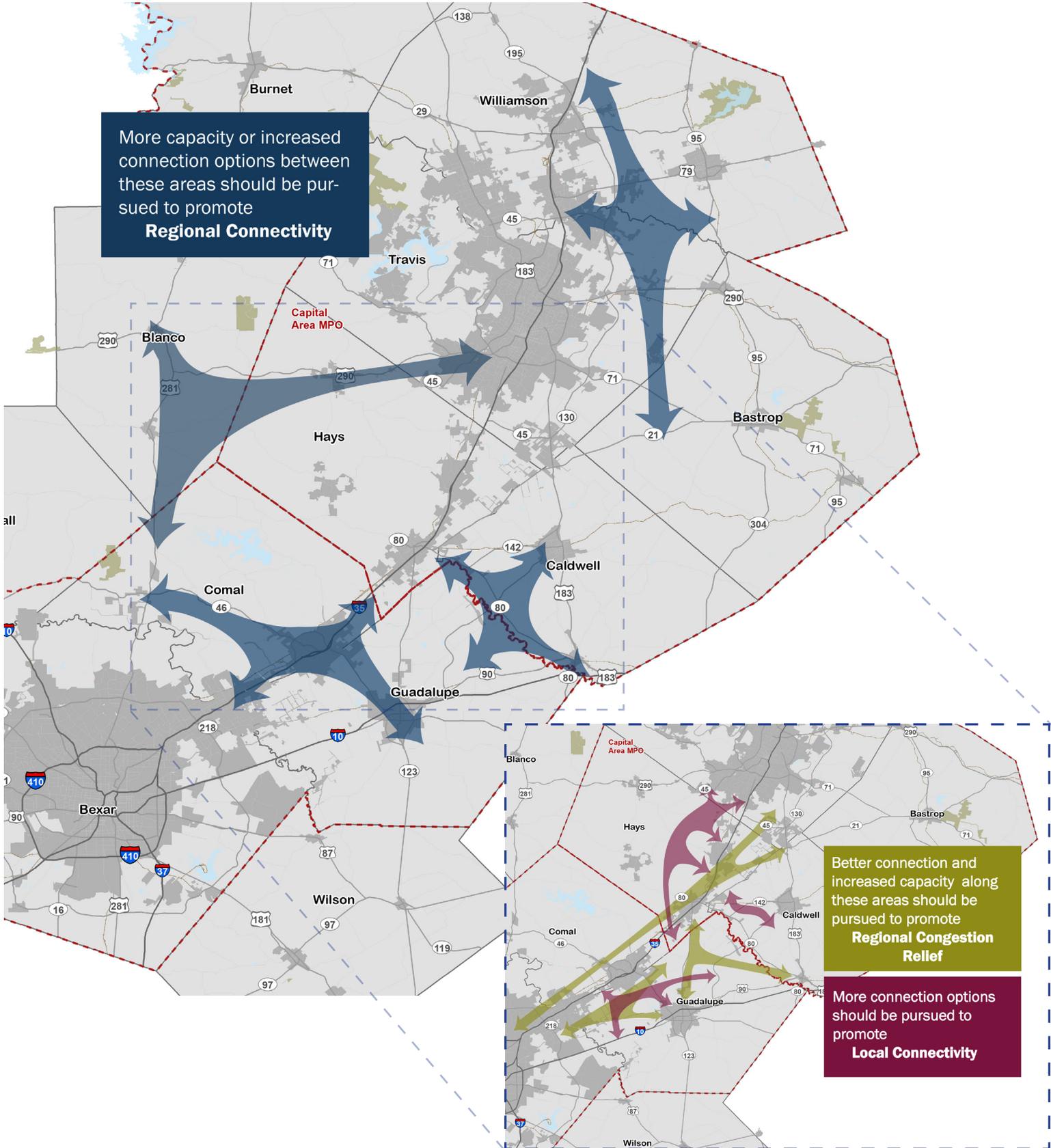
Strategy	Tactics	Topics	Potential Partners		Coord.
SHORT TERM (2019-2024)					
Designate an interregional arterial network	ID network of arterials designated as routes for main local movements and I-35 relief operations		TxDOT, CAMPO, AAMPO, Local Govts.	●	
	Begin feasibility studies for existing & future needs on each of the identified arterials				
Develop a prioritization framework to aid local officials in prioritizing future investments	Develop arterial performance measures and an information exchange protocol for sharing of the resulting measurements		TxDOT, CAMPO, AAMPO, Local Govts.		
	Develop an investment monitoring tool for arterial improvements				
Coordinate connection of planned arterial improvements in regional, local, and county thoroughfare plans	Initiate arterial improvement coordination between MPOs, cities and counties, focusing on cities whose ETJs cross county and MPO boundaries		CAMPO, AAMPO, Local Govts.	●	Regional Coord.
	Support local corridor preservation and corridor management activities for identified routes				
MID TERM (2025-2035)					
Develop interregional arterial network	Construct improvements to existing arterials	 	TxDOT, Local Govts, CAMPO, AAMPO	●	
	Conduct planning and engineering for new arterial connections				

Arterial Improvement Strategies, Cont.

Strategy	Tactics	Topics	Potential Partners		Coord.
Prioritize corridor preservation and access management efforts	Integrate planned arterials with local growth plans	 	CAMPO, AAMPO, Local Govts, TxDOT		
	Identify and preserve right-of-way for new arterial connections				
	Perform access management along local arterials to ensure adequate mobility and safety				
Integrate management and operations of designated arterials into I-35 corridor management strategies	Identify areas of opportunity and overlap between local transportation Incident Management Plans	 	CAMPO, AAMPO, Local Govts, TxDOT		
Develop an improvement plan for designated arterials	Prioritize safety improvements on existing arterials		TxDOT, CAMPO, AAMPO, Local Govts.		
	Identify and prioritize potential new arterial connections				
Coordinate the connection of local arterial ITS systems with regional ITS master plans	Support existing local ITS efforts and traffic management systems on arterials through knowledge and resource sharing	 	CAMPO, AAMPO, Local Govts, TxDOT		ITS & ICM
	Integrate local arterial ITS and TxDOT-managed systems				ITS & ICM
	Develop a regional strategy for smart multi-modal corridors, including installation of ITS technology and variable message road signs for motorists				ITS & ICM
	Create an interregional arterial rerouting plan for incidents along major regional connections and integrate recommendations into local incident management plans and ITS protocols				ITS & ICM
LONG TERM (2036-2045)					
Equip arterials with connectivity capabilities to accommodate emerging technologies	Provide ITS connectivity along smart multi-modal corridors		TxDOT, CAMPO, AAMPO, Local Govts.		ITS & ICM / Modal Options
	Implement maintenance practices that support smart multimodal corridors				ITS & ICM / Modal Options
Nurture the extension of the local and relief arterial networks to enhance mobility and connectivity between growing regions	Reassess the performance of the interregional arterial rerouting plans in a bi-annual basis based on established arterial performance measures		CAMPO, AAMPO, Local Govts, TxDOT		Regional Coord.
Continue to promote use of local arterials to facilitate interregional multimodal connectivity	Coordinate with regional bicycle networks and regional transit service routes to promote use of major arterials as regional multimodal corridors	 	CAMPO, AAMPO, Local Govts, TxDOT		Modal Options

Arterial Improvement Strategies Map

The following maps identify the potential areas and characteristics of the arterial improvement strategies to be implemented in the region according to stakeholder input and technical assessment of needs.



The Path Forward

This study and its outreach efforts have demonstrated that there is a need and desire for the Capital-Alamo region to address mobility challenges collaboratively and in coordination with other planning partners. As population continues to grow, the geographic distinctions between the Austin and San Antonio metro areas are expected to decrease. There will be a greater need in the future to coordinate planning efforts, particularly regarding transportation facilities and services that link the two regions. A series of well-coordinated policies, strategies and improvements will be required to enhance the mobility in the region contingent on the investment of resources by planning partners. It falls to all of the study partners to integrate the strategies from this study into their planning efforts.



CAPITAL - ALAMO CONNECTIONS STUDY



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