

Anchorage

SMART CITY CHALLENGE



BUILDING A STRONG & VIBRANT ANCHORAGE FOR EVERYONE.

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1 VISION

Anchorage has a new vision. To build a strong and vibrant Anchorage for everyone.

With leadership and support from Mayor Ethan Berkowitz, motivation is high to leverage synergies between municipal systems as a means toward better management. We are confident that Anchorage models the attributes of an ideal candidate for the Smart City Challenge. The values that are guiding Anchorage's vision include:

Excellence: Consistent delivery of quality work products that are data driven and results oriented.

Innovation: Commitment to find thoughtful and creative solutions.

Talent: Looking at one another and engaging outside resources for ideas and solutions.

Inclusion: The community belongs to all who live here and must reflect that reality.

Initiative: Willingness to engage in daring and difficult activities.

Anchorage's four priorities and challenges align with USDOT's twelve vision elements:

Priority	Challenge	Smart City Vision Elements
Public Safety	How can we improve public safety and strengthen Anchorage neighborhoods?	<ul style="list-style-type: none">• Urban Automation• Connected Vehicles• Intelligent, Sensor Based Infrastructure• User-Focused Mobility Services & Choices• Urban Analytics• Strategic Business Models & Partnering• Connected, Involved Citizens• Architecture & Standards• Low-Cost, Efficient, Secure, & Resilient ICT• Smart Land Use
Homelessness	How can we eradicate homelessness and improve the health of the community?	<ul style="list-style-type: none">• User-Focused Mobility Services & Choices• Urban Analytics• Strategic Business Models & Partnering• Architecture & Standards• Low-Cost, Efficient, Secure, & Resilient ICT• Smart Land Use
Business Excellence	How can we facilitate a local government focused on excellent customer service that is fiscally responsible and efficient?	<ul style="list-style-type: none">• Urban Automation• Connected Vehicles• Intelligent, Sensor Based Infrastructure• User-Focused Mobility Services & Choices• Urban Analytics• Urban Delivery & Logistics• Strategic Business Models & Partnering• Smart Grid, Roadway Electrification, & EVs

		<ul style="list-style-type: none"> • Connected, Involved Citizens • Architecture & Standards • Low-Cost, Efficient, Secure, & Resilient ICT • Smart Land Use
Revitalized and Resilient Neighborhoods	How can we comprehensively and innovatively seek new ways to support neighborhoods in adapting to both internal and external social, economic, and environmental pressures to emerge stronger and more resourceful while supporting existing neighborhood character?	<ul style="list-style-type: none"> • Urban Automation • Connected Vehicles • Intelligent, Sensor Based Infrastructure • User-Focused Mobility Services & Choices • Urban Analytics • Urban Delivery & Logistics • Strategic Business Models & Partnering • Smart Grid, Roadway Electrification, & EVs • Connected, Involved Citizens • Architecture & Standards • Low-Cost, Efficient, Secure, & Resilient ICT • Smart Land Use

We know there are solutions that will lead us towards cultivating Anchorage’s vision. Key elements include accessible, open data sharing to build transparency throughout the community, enabling the public to help solve some of our challenges, and ultimately creating new opportunities. Linking Information and Communications Technology (ICT) in various key municipal service and infrastructure sectors, such as water, power, and transportation, will enable better decision making and leverage municipal resources. GIS is a critical supporting technology powering Anchorage’s vision, feeding all of major municipal systems. Anchorage’s Regional ITS (Intelligent Transportation Systems) Architecture Implementation Plan identifies technology projects that are needed over the next 10 years, as identified by agency personnel, including a multi-agency Traffic Operations Center and municipal support of the Alaska 511 traveler information system. Projects included in the ITS Architecture support the majority of the Smart City Challenge vision elements.

Optimization of economic and fiscal cross-benefits to be derived from these plans and projects will require a more holistic view. For example, sensors that monitor parking and traffic in real-time can also provide detection and monitoring of situations or events (e.g., water line breakages or traffic) to assist Anchorage Water and Wastewater and Utility, with decision support. Traffic detection camera images can be shared with Anchorage Police Department and Alaska State Troopers in the event of accidents to assist with incident response.

Anchorage proposes to embark on a project that engages key municipal and state agencies to develop an ICT Concept of Operations and Architecture. The ICT will establish the goals and objectives in developing the larger vision for technology, information and data sharing, and a

work program that identifies tangible steps needed to achieve the USDOT's vision integration and improve Anchorage's capacity to make data driven decisions.

Anchorage is focused on results; we look forward to sharing our experience and success.

2 POPULATION

As the largest city in Alaska, Anchorage's population of 251, 243 accounts for 40% of the state's population. Located in southcentral Alaska, Anchorage is the hub of the state's communication, transportation, military, health care, finance, and trade industries. These industries are constantly improving and innovating by upgrading technologies, providing competitive services, and offering new services. Anchorage is a modern city with a diverse population. 100 languages are spoken in the Anchorage School District. Mountain View, a northeast Anchorage neighborhood, boasts the most diverse census tract in all of America. Additionally, 100% of Anchorage's population resides within the urbanized area.

3 CHARACTERISTICS

As a northern city, Anchorage is well known for its winter climate. However, our winter climate is not the primary focus of this application. Our primary focus with this application is to build a strong and vibrant Anchorage for everyone. Anchorage's public transit provider, People Mover turned 41 years old in 2015. People Mover provides public transportation to the Anchorage, Eagle River, Chugiak and Peters Creek areas which encompass 77 square miles. People Mover maintains a fleet of 52 accessible, ADA compliant buses that travel over two million miles a year. Seven days a week, People Mover operates 14 fixed routes around the Downtown transit center and three satellite hubs. People Mover provides 4.1 million trips annually, with an average weekday ridership of 14,297. Additionally, AnchorRIDES is a shared ride service providing ADA transportation service to people with disabilities, seniors, and other contracted trips.

As a young and growing city, Anchorage is a place for all ages where you can live close to work, make a competitive salary, and have a plethora of options for entertainment and outdoor activities. Our partner, Anchorage Economic Development Corporation is leading the charge to make Anchorage the #1 city in America to Live. Work. Play by 2025. There are many things that make this city an amazing place to call home; however to be the #1 city in the nation to live, work, and play, we must continually improve and invest. Therefore, Anchorage provides an environment that is conducive to demonstrating the proposed ICT Concept of Operations and Architecture.

On May 5th, 2015, the people of Anchorage elected Ethan Berkowitz to be their next mayor, and to lead Alaska's largest city into its next centennial. Within two weeks, Mayor-elect Berkowitz announced a transition team to create a blueprint for a safe, secure, and strong Anchorage. The charge was to create a forward thinking transition report that recognized the unique challenges

and opportunities we have, while identifying the steps his administration could take to more effectively address the critical issues that face Anchorage. He assembled a team of three co-chairs, ten sub-committee co-chairs, along with over 125 community and business leaders, practitioners and end-users, organized into five issues specific working groups. Each committee hosted 18 to 25 people, and the rosters were comprised of a diverse group of participants, from a wide range of backgrounds and cultures. The five committees were tasked with examining Mayor-elect Berkowitz's key areas of concerns, and developing a collaborative and comprehensive approach to addressing the specific area of focus. Four focus areas included Public Safety, Homelessness, Business Excellence, and Revitalized and Resilient Neighborhoods. To ensure even greater public participation, Mayor-elect Berkowitz hosted four town hall meetings and a community diversity celebration over a two-week period in June. These public events drew almost 1,000 people combined, and gave Anchorage residents an opportunity to share their thoughts on the future with the next mayor. By the end of June, each committee had produced a final draft of their recommendations arising from the presentations they'd received from the outgoing administration, committee discussions and public conversations. As outlined in Mayor Berkowitz cover letter Anchorage is focused, highly motivated, and employs the continuity of committed leadership and capacity to carry out the demonstration throughout the period of performance.

Anchorage faces fiscal headwinds from declining oil prices and military downsizing, and recognizes the need to become resilient through economic diversification; strategic development and redevelopment efforts of key neighborhoods- particularly our struggling downtown; and support entrepreneurial activity. A commitment to integrating the sharing economy is a natural fit as Anchorage diversifies its economy. Anchorage is a 2016 [Smart Growth America](#) grantee, as a result, technical assistance will focus on a range of issues including transit-oriented development, Complete Streets, smart growth zoning, economic development and fiscal health, parking management and regional planning for small communities, among other topics.

As a Bloomberg Philanthropies "[What Works City](#)" grantee, Anchorage has publicly committed to establish and improve its open data practices in order to make the city's data more accessible to city managers and the public, engage residents around government priorities and services, and increase transparency and accountability. By publishing high-quality city data, Anchorage can, fuel innovation and entrepreneurship while making it easier for the public to engage and access government services.

4 SITE MAP

The site for Anchorage's ICT Concept of Operations and Architecture will reflect the MPO boundaries. Anchorage Metropolitan Area Transportation Solutions (AMATS) is the MPO for the

urbanized area as designated by Governor Jay Hammond on April 8, 1976. Additionally, in 1997 the U.S. Secretary of Transportation designated AMATS as a Transportation Management Area (TMA). It is AMATS' responsibility to meet the requirements of the FAST ACT for the Metropolitan Planning Area (MPA). These requirements call for the development of a multimodal transportation system that integrates with land use plans, reflects the 3C planning process, and meets Federal and State planning requirements. The site map is located in Appendix A.

5 APPROACH

As it relates to transportation, the twelve USDOT vision elements are woven into many of Anchorage's adopted Transportation Plans including: the Interim 2035 Metropolitan Transportation Plan, Anchorage 2020 Comprehensive Plan, the Human Service Coordinated Transportation Plan, the Congestion Management Process, the Pedestrian Plan, the Bicycle Plan, People Mover Blueprint, and the Freight Mobility Study. The Smart City Challenge provides Anchorage with an opportunity to holistically integrate the technology solutions that were recommended for implementation in federally funded planning efforts listed above. In reviewing the trends from Beyond Traffic 2045 for the ICT Concept of Operations and Architecture proposal, we recognize the significance of Secretary Foxx's sentiments regarding the trends. Therefore, Anchorage is committing to working towards the three strategies outlined below.

1. Take better care of our legacy transportation systems.
2. Build what is new and necessary.
3. Use technologies and better design approaches that will allow us to maximize the use of our old and new transportation assets.

What follows highlights how Anchorage is currently meeting the intent of the twelve visions or is planning to integrate the visions as part of the ICT Concept of Operations and Architecture.

TECHNOLOGY ELEMENTS

5.1 Vision Element #1: Urban Automation

Anchorage recognizes the ability of automated transportation to enhance safety, mobility, and accessibility, equity, and the environment. Examples of automated transportation planned for the Anchorage area includes:

Traffic Operations Center (TOC): There has been significant discussion about establishing a transportation operation center in the Anchorage area. There is currently a multi-agency group looking at what TOC functions are needed and how best to meet those needs. The group will also assess the configuration of the TOC, with options ranging from a brick and mortar building to a completely virtual TOC. When that work is completed, the recommendations will need to be implemented. There will likely be multiple projects starting in the near term and extending beyond to implement the recommendations.

Traffic Signal Controller Upgrade: The existing traffic signal controllers are relatively old. The features and capabilities of the controllers are constrained because of this. There is a current effort to upgrade signal controllers. This effort will continue in the near-term.

5.2 Vision Element #2: Connected Vehicles

The opportunity to utilize connected infrastructure in order to improve safety, increase mobility, and achieve environmental gains are of great interest to Anchorage. Efficient, real-time, responsive mobility solutions have the ability to positively impact our community by reducing congestion and by providing valuable transportation data for planners and operators. Automated vehicles and vehicles connected to each other and to infrastructure will be upon us soon, and Anchorage must prepare. Examples of connected infrastructure planned for the Anchorage area includes:

Transit Signal Priority (TSP): The Municipality and its Public Transit Department piloted TSP systems on routes 7 and 9 within Anchorage. TSP at additional locations will help the Municipality's transit provider to achieve and maintain on-time performance. In turn this will reduce travel time, making transit more favorable to the public. TSP may also assist with emergency response during disasters for evacuation, triage, etc. Further implementation of TSP is on-hold until the traffic signal controller upgrade project is complete.

Signal Priority for Maintenance Vehicles: Transit vehicles have the ability to request priority at traffic signals using on-board systems. Allowing maintenance vehicles such as snow plows the same ability allows for maintenance work to be completed more quickly and therefore cause fewer disruptions to traffic flow. This is particularly important for snow plows to allow them to proceed on their routes as expeditiously as possible. The usage of signal priority systems could also include automatic vehicle location (AVL) capabilities and turn-signal linkage.

Currently, neither the Municipality nor the State of Alaska have plans to build roadside infrastructure that can connect directly to vehicles (e.g., road signs embedded with ability to communicate with private vehicles). As a result of this application, the Municipality/State of Alaska may elect to conduct a cost/benefit analysis, including maintenance costs, to determine if deployment of this technology is warranted. The connected vehicle environment is not included in the current ITS Architecture update; however, MPO staff is researching how to include it in the 2040 Metropolitan Transportation Plan Update.

5.3 Vision Element #3: Intelligent, Sensor-Based Infrastructure

Cameras and sensors can be used by multiple Departments for a variety of purposes. With permissions granted, and given proper controls for privacy (e.g., real-time traffic cameras can be used by Fire and Police to assess incidents and determine appropriate levels of response; parking sensors/cameras can assist water utilities with detection of water main breaks; transit center security cameras can be connected to Police for incident monitoring/response.) Multi-

department/agency agreements should be identified up-front, before technologies are implemented, to keep implementation costs down. Examples of Intelligent, Sensor-Based Infrastructure planned for the Anchorage area includes:

Bicycle Detection and Warnings: The adopted Bicycle Plan includes an Action Item Recommendation to consider visual or motion detection as options for detecting bicycles at signalized intersections where a high level of bicycle use exists or is anticipated. This strategy can include camera, radar, or other detection. The strategy can be used to detect bicycles as input to the traffic signal controller as well as providing warnings to drivers of motorized vehicles of the presence of bicyclists through means of dynamic message signs, or flashing warning signs.

Closed Circuit Television (CCTV): CCTV provides agencies, operators and the public with real-time images of traffic, and incidents that occur on regional roadways. Anchorage Police Department and Anchorage Fire Department have specifically voiced their interest in an expansion of camera coverage. Camera images could also help Maintenance staff in making decisions regarding their operations. Images can be used to verify reports from the field, and to determine the type of equipment needed to treat injured persons and remove accidents and/or debris from the roadway. There are cameras currently in place within the Municipality. This effort would expand the coverage of cameras in the Municipality.

Parking Space Sensors: The Municipality is planning to implement a new parking management system. This system will be able to provide parking occupancy and availability information so travelers will know where parking spaces are available. It will also include wayfinding features to provide travelers with information on how to get to the available spaces. This project is in mid-term because the parking revenue control system has to be updated first. It is envisioned that information will be displayed on signs along the streets and on a traveler information website.

Highway-Rail Intersection (HRI) Warnings: It is envisioned that the Municipality will implement HRI Warning systems located near highway-rail intersections. This will improve driver awareness of oncoming trains and improve safety at HRIs. Railroad information collected from the Alaska Railroad Corporation (ARRC) wayside equipment and detectors would provide the needed data for this feature. Advanced train detection could collect data such as train speed, location, arrival times, and crossing delays. By collecting and distributing this information to travelers and agencies, motorists could choose their routes and times of travel to minimize delays caused by rail crossings. Dynamic message signs will be the primary mechanism for providing this information, although it could also be displayed on a traveler information website and through smartphone apps.

Cameras and sensors for one purpose can be used by other Departments for other purposes, with permissions granted, and given proper controls for privacy (e.g., real-time traffic cameras can be used by Fire and Police to assess incidents and determine appropriate levels of response;

parking sensors/cameras can assist water utilities with detection of water main breaks; transit center security cameras can be connected to Police for incident monitoring/response.) Multi-department/agency agreements should be identified up-front, before technologies are implemented, to keep implementation costs down.

INNOVATIVE APPROACHES TO URBAN TRANSPORTATION ELEMENTS

5.4 Vision Element #4: Urban Analytics

Anchorage is a data-rich environment. Thirty seven Municipal departments are collecting a variety of data that could be integrate that data in order to address our complex urban challenges, performance measures, improve services and current operations. Examples of Urban Analytics in the Anchorage area includes:

Data Archive Investigation to Support Multi-Agency Data Sharing: Currently, agencies in the region maintain their own data repositories. This makes it convenient for internal operations in terms of accessing historic data within one's agency, but not as convenient for obtaining data from others. The aim of Data Archive service area is to support multi-agency data sharing. By creating a central Archive Data Services system that different agencies can contribute to, access to a more abundant amount of historic data becomes streamlined and readily attainable for the participating agencies. There is currently no consensus on the organization or management approach to a centralized data archive. The first step would be to conduct a study on the specific needs for data archiving and how best to meet those needs. This study should consider various types of data to be archived, the priority for archiving each type, where such an archive would best fit among the regional agencies in terms of ownership and operations, and the potential policies and procedures connected to the archive. (A second effort to implement the archive is suggested in the midterm.)

Common Geographic Information System (GIS): The Municipality currently has a common GIS platform. All departments and divisions have access to that platform. There will continue to be additional needs for GIS layers and applications. These efforts will follow the greatest needs of the departments and divisions.

Shared Traffic Database: Within the overall data archive, traffic data shared and easily retrieved traffic data was noted by many agencies as a need. An initial focus of a regional data archive should be on implementing a shared database for traffic data. This will reduce the burden on agencies to collect data or search for data that already exists somewhere within the Municipality. Part of this effort should also investigate geo-coding traffic data so it can be displayed on a GIS layer to graphically display the information.

Wi-Fi/Bluetooth Detection for Travel Time: Wi-Fi and Bluetooth detectors can be used to determine travel times on the roadway network. This system could provide high quality travel

time for the purpose of modifying traffic signal timing, for performance monitoring, and to post travel times to the public on the web. This technology exists and is cost-effective to implement. A first step would be to design and implement a pilot study to determine how well it works to support traffic signal timing changes, and (if successful) how best to expand the system.

Road Weather Information Systems (RWIS) Data Sharing: AKDOT&PF currently operates RWIS in the Municipality and the surrounding area. A mechanism to share this information with Maintenance staff within the Municipality would help in determining the most effective winter maintenance actions.

5.5 Vision Element #5: User-Focused Mobility Services and Choices

Anchorage's Travel Options programs encourage residents, commuters, and visitors to get out of their private automobile for more trips and provide opportunities for them to walk, bike, share rides, and take transit. These programs are coordinated efforts - between AMATS and Public Transit, the business community, universities and other institutions, and area nonprofits - that provide education, information, incentives, and other resources to encourage alternatives to driving alone. Anchorage is becoming more sustainable, encouraging different modes of travel, implementing the Bicycle Plan and Pedestrian Plan, and supporting Integrated Mobility through use of a new Smart Phone app for multi-modal trip planning.

Multi-modal Trip Planner: AMATS is currently working on a multi-modal trip planner hosted by RideAmigos that includes a smartphone app. This piece of technology will enhance the overall mobility for the community including people with disabilities, seniors, and Millennials. The data will be consolidated and available for other organizations to use for their planning purposes.

Traveler Information Web Site: There are several real-time data sources either available or proposed that would be valuable to display on a traveler information website. CCTV camera images are some of the most popular types of traveler information. The existing and any planned CCTV images, either full motion or stills, could be displayed. In addition, information on travel times from the Wi-Fi/Bluetooth detectors could also be displayed. Information on incidents, planned construction closures, or special events that affect traffic could also be included. As additional real-time or planned data was available, it could be added to the website.

Intelligent Transit Stops: Ranges from kiosks, which show static transit schedules, to real-time information on schedules, locations of transit vehicles, arrival time of the vehicle, and alternative routes and modes. This is shown in the mid-term because Public Transportation will be tied up with existing projects and determining their technology refresh in the near term.

Fare Payment: Customers and the Public Transit Department would like to provide a mechanism for customers to recharge their transit accounts on-line and/or through a smartphone app. A

project to investigate the best mechanisms for Anchorage would be a first step followed by an implementation project.

Integration with Alaska 511: The existing condition entry system that AKDOT&PF has connects directly to their 511 system and the information can be shared among a variety of agencies. Authorized personnel in the Municipality such as police, fire, and traffic operators, can input and retrieve traffic information and roadway conditions directly into the statewide database. Personnel could enter and retrieve data through use of mobile devices as well. Once entered, the information is available for everyone to see simultaneously, reducing the time needed to report this information to individual agencies or to the public. Currently Municipality has a Memorandum of Agreement with AKDOT&PF to do this. The Anchorage Police Department recently agreed to an approach where incident information is directly fed to AKDOT&PF through its Nixel feed.

Parking Management: The Municipality is planning to implement a new parking management system. This system will be able to provide parking occupancy and availability information so travelers will know where parking spaces are available. It will also include wayfinding features to provide travelers with information on how to get to the available spaces. This project is in mid-term because the parking revenue control system has to be updated first. It is envisioned that information will be displayed on signs along the streets and on a traveler information website.

5.6 Vision Element #6: Urban Delivery and Logistics

Anchorage is the gateway connection to the world for Alaska; freight shipments from elsewhere sustain the state and local economies. Modernizing the Port of Anchorage is essential for accommodating larger vessels and adapting to changing requirements and technologies. Trucks of all sizes distribute goods that arrive and depart by air, sea, and rail carrying freight to, from and through the Anchorage metropolitan area and the region beyond. Freight distribution is an integral part of the daily economic activity of the Municipality, freight travel patterns affect traffic and are affected by the efficiency of the road network.

An update to the Freight Mobility Plan is currently under way. This document will examine innovative solutions that effectively and efficiently move goods – including food, energy, and manufactured goods, the use data or deploying technology to create opportunities for a more efficient supply chain approach that delivers safer logistics management, improved on-time pickups and delivery, improved travel time reliability, reduced fuel consumption, and reduced labor and vehicle maintenance costs.

5.7 Vision Element #7: Strategic Business Models and Partnering Opportunities

Anchorage welcomes this opportunity to leverage creative, strategic partnerships that will draw in stakeholders and maximize resources and investments. Our partners include municipal departments; the Mat-Su Borough; the general public; the Anchorage Economic Development

Corporation; the Anchorage Community Development Authority; Alaska Native corporations and tribal groups; the Alaska Railroad; Code for Anchorage; the University of Alaska Anchorage; and others.

5.8 Vision Element #8: Smart Grid, Roadway Electrification, and Electric Vehicles

While Electric Vehicles were not identified in the ITS Architecture update; the construction of a state-of-the-art natural gas power plant, coupled with increased energy efficiency measures in the municipality creates the potential for excess electrical generation capacity that clears the way for reduced costs for electric vehicle fleets.

With this additional capacity available, Anchorage plans to transition our Municipal fleets, including buses, to electric vehicles. This process would include installing charging stations in Municipal parking lots, within our Municipal Light & Power utility service area, and eventually throughout all of Anchorage for use by all public and private electric vehicle owners.

Additionally, the Anchorage owned electric utility, Municipal Light & Power, intends to install a Smart Grid metering infrastructure pilot program within the next year. Coupling this system with enhanced data collection systems across the Municipality would create an even stronger platform for informed decision making in the future.

5.9 Vision Element #9: Connected, Involved Citizens

Anchorage's citizens are connected on multiple levels. First they are connected in the sense they participate and are active within the community on matters of local and state government. Second, they are connected by the data they generate, share, and use. As outlined in their letter of support, our partner Code for Anchorage has worked successfully with several Municipal departments in order to use their data in new and useful ways. AMATS is currently working on a multi-modal trip planner hosted by RideAmigos that includes a smartphone app. This piece of technology will enhance the overall mobility for the community including people with disabilities, seniors, and Millennials. The data will be consolidated and available for other organizations to use for their planning purposes.

SMART CITY ELEMENTS

5.10 Vision Element #10: Architecture and Standards

As it relates to transportation in Anchorage, AMATS maintains the Regional ITS Architecture and Turbo Architecture™. The Turbo Architecture™ supports FHWA Rule 940 and FTA National ITS Architecture Policy on Transit Projects.

5.11 Vision Element #11: Low-Cost, Efficient, Secure, and Resilient Information and Communications Technology

This vision element is the heart of Anchorage's Smart City Challenge proposal. Developing an ICT Concept of Operations and Architecture will provide Anchorage with strategies and practices that advance information and communications technology (ICT) that is affordable, adaptable,

efficient, secure and resilient, including integrated telecommunications platforms, enterprise software, storage, and visualization systems. This will include ICT that contributes to one common operating platform to inform city government decision-making. ICT infrastructure, technologies, and services are a critical part of a Smart City. ICT consists of unified communications and the integration of telecommunications, computers as well as necessary enterprise software, storage, and visualization systems, which enable users to access, store, transmit, and manipulate information.

5.12 Vision Element #12: Smart Land Use

Anchorage recognizes that land use and transportation are tightly intertwined. Established land uses in the metropolitan area are constrained in many locations by geographical features such as coastlines, mountains, and stream corridors. These established land uses have influenced the travel patterns that exist today. Understanding the relationship between the distribution of housing and employment is critical to project future transportation demand. The geographical distribution of land uses, development densities, site designs, and proximity to complementary uses directly influence the number and length of trips, mode choice, viability of walking and cycling, the attractiveness of transit service, and travel origin-destination patterns.

The regional population growth projections show the most dramatic population growth occurring in the Mat-Su Borough (119%), followed by Chugiak-Eagle River (74%), and Anchorage (15%). Physical growth and common interest are jointly affecting the Municipality and the Mat-Su Borough. The two jurisdictions together house the majority of the population and employment in the state. Travel interactions and economic interest argue for collaboration on many fronts. As the urban region continues to grow, pressure is mounting on the amount of land remaining in Anchorage for development.

Currently, land use and transportation are being considered together as Anchorage's Land Use Plan Map is being updated and land use strategies are being considered as part of the Spenard Corridor Strategic Plan. Planners are working together toward development of an implementation plan for Transit Oriented Development along Transit Supportive Corridors.

6 RISKS

Risks involved in the ICT Concept of Operations and Architecture project are minimal. At this point there are no technical, policy, or institutional risks associated with the deployment vision. Meaningful public involvement, project communication, and education will be critical components of the project for all Municipal Departments and the general public.

7 TEAM

ICT Concept of Operations and Architecture project team, partners, and stakeholders will include:

The Mayor's Office • AMATS • Office of Emergency Management • Anchorage Police Department • Anchorage Fire Department • Public Transit • Office of Economic and Community Development • Public Works Maintenance and Operations • Traffic Department • Department of Health and Human Services • AKDOT&PF • National Weather Service • the Center for GIS Excellence • University of Alaska Anchorage • Anchorage Economic Development Corporation • Anchorage Community Development Authority • Chugiak-Birchwood-Eagle River Rural Road Service Area • Native Village of Eklutna • Municipal Light and Power • Anchorage Water and Wastewater Utility • Solid Waste Services • Parks and Recreation • Information Technology • Finance • Joint Base Elmendorf and Richardson • the Mat-Su Borough • the Alaska Railroad • the Port of Anchorage • Code for Anchorage • vRide • Bike Anchorage • and others as identified •

Anchorage is open to public and/or private partnerships in order to address the four priorities outlined as part of our vision: Public Safety, Homelessness, Business Excellence, and Revitalized and Resilient Neighborhoods. The Municipal governance process is found in Appendix B.

8 EXISTING INFRASTRUCTURE

Ownership of roads is shared by local, state, and federal governments and private entities. There are 277 signalized intersections managed by the Municipality on its arterial network and State-managed traffic signals on State-owned facilities. The State of Alaska owns most of the most heavily used arterial streets and freeways. The remaining roads are owned by the Municipality of Anchorage. In some cases, sections of the same road are owned by both entities and are indicative of the importance of close intergovernmental cooperation and collaboration. Ownership of roads by the federal government occurs on federal lands, such as Joint Base Elmendorf-Richardson. Some private roads within the MPO boundary are owned by residents who use and maintain them. The surface transportation system includes:

Freeway: 51 Centerline Miles

Expressway: 2 Centerline Miles

Arterial: 174 Centerline Miles

Collector: 149 Centerline Miles

Local Street: 1,130 Centerline Miles

Bicycle Lane: 13 Centerline Miles

Pedestrian System: 521 miles of sidewalk

Trail System: 243 miles of separated multi-use trails

Transit services:

People Mover is the fixed-Route bus service in the metropolitan area operated by the Municipality of Anchorage Public Transit Department. Bus service ranges from 30-60 minute headways during the weekday peak and generally every 60 minutes for all other hours including

weekends. Service between Chugiak-Eagle River and Anchorage is available on Eagle River Connect, Monday through Friday.

Valley Mover is a public commuter service that operates between the Mat-Su Borough and Anchorage. Valley Mover offers 14 round trips a day, Monday-Friday.

Shared-use mobility services:

AnchorRIDES provides demand-response, curb-to-curb transportation service to people with disabilities that prevent them from using People Mover (fixed-route system) and senior citizens.

The Anchorage School District provides transportation for students who live more than 1.5 miles from their school or who live along routes designated as hazardous for walking are eligible to ride a school bus.

Vanpooling is supported by Public Transit's Share-A-Ride program and contracted by vRide. Of the 56 vanpools in operation, 53 originate from the Mat-Su Borough.

Carpooling within the Anchorage area is currently informal. People use Twitter, Craigslist, Zimride, Ridester, erideshare, and carpool world. The MPO is currently working on a project that will drastically improve carpooling and schoolpooling efforts across the state.

Taxi service in Anchorage is provided by Alaska Yellow Cab and Checker Cab.

Bikeshare is available through the University of Alaska Anchorage.

The Municipality is looking to partner with the University of Alaska Anchorage to expand carsharing throughout Anchorage. Additionally, we are looking at an electric carsharing fleet to be able to capitalize on the excess electrical generation capacity from the new natural gas power plant under construction in Anchorage.

A variety of human service shuttles and private shuttles operate within Anchorage. Some allow the general public to ride, while others only transport their clients, students, or employees.

Information and communication technology (ICT):

Anchorage's Smart City Challenge proposal is for an ICT Concept of Operations and Architecture.

Intelligent Transportation Systems (ITS) including transportation management centers and field equipment:

Smart Grid Infrastructure including electric vehicle charging infrastructure:

As part of Vision Element #8: Smart Grid, Roadway Electrification, and Electric Vehicles Anchorage is planning for excess electrical generation capacity. This includes transitioning our Municipal fleets, including buses, to electric vehicles. This process would include installing charging stations in Municipal parking lots, within our Municipal Light & Power utility service area, and eventually throughout all of Anchorage for use by all public and private electric vehicle owners.

9 DATA COLLECTION

There is data being collected by the thirty-seven Municipal departments. Currently, the Anchorage Water and Wastewater Utility hosts the GIS Center for Excellence. The Municipal [Maps and Apps](#) gallery is a product the Center; at its existing capacity the Center deals with a limited amount of data. The Center has a vision for Enterprise GIS for Anchorage that is a strategic resource for sharing of timely, accurate, and reliable geographical information for all municipal departments, public agencies, and the public at large. Anchorage's ICT Concept of Operations and Architecture project will identify the lead, additional project partners and stakeholders in order to integrate the data that the city is already collecting to improve management and operations.

10 EXISTING POLICIES

Currently there are not policies in place applicable to the proposed data to be collected and shared as part of Anchorage's ICT Concept of Operations and Architecture project application.

11 EXISTING STANDARDS

Not applicable at the time of Anchorage's ICT Concept of Operations and Architecture project application.

12 PERFORMANCE MEASURES

Performance measures for the ICT Concept of Operations and Architecture project have yet to be defined. Metrics could include increases in mobility, safety, system efficiency, economic vitality, and sustainability; and reductions in congestion, environmental impacts, and gaps in service. Additional performance measures should include Anchorage's four focus areas: Public Safety, Homelessness, Business Excellence, and Revitalized and Resilient Neighborhoods.

13 CAPACITY

The Municipality possesses the Technical Capacity to implement and administer the ICT Concept of Operations and Architecture. Projects funded by the USDOT are implemented in accordance with the grant application, Master Agreement, and all applicable laws and regulations, using sound management practices.

The Municipality is eligible and authorized under state and local law to request, receive, and dispense USDOT funds and to execute and administer federally funded projects. FY 2015 Annual List of Certifications and Assurances were signed by the authorized official and attorney.

Additionally, there are no legal issues that have impact on Anchorage's federal program. The Municipality continues to demonstrate its ability to match and manage USDOT grant funds; cover cost increases and operating deficits while financially maintaining and operating federally funded programs and facilities. Anchorage conducts and responds to applicable audits and there are no outstanding financial issues that would impact Anchorage's federal program. An adequate financial management system is in place, allowing grant balances to be tracked accurately.

14 RESOURCES

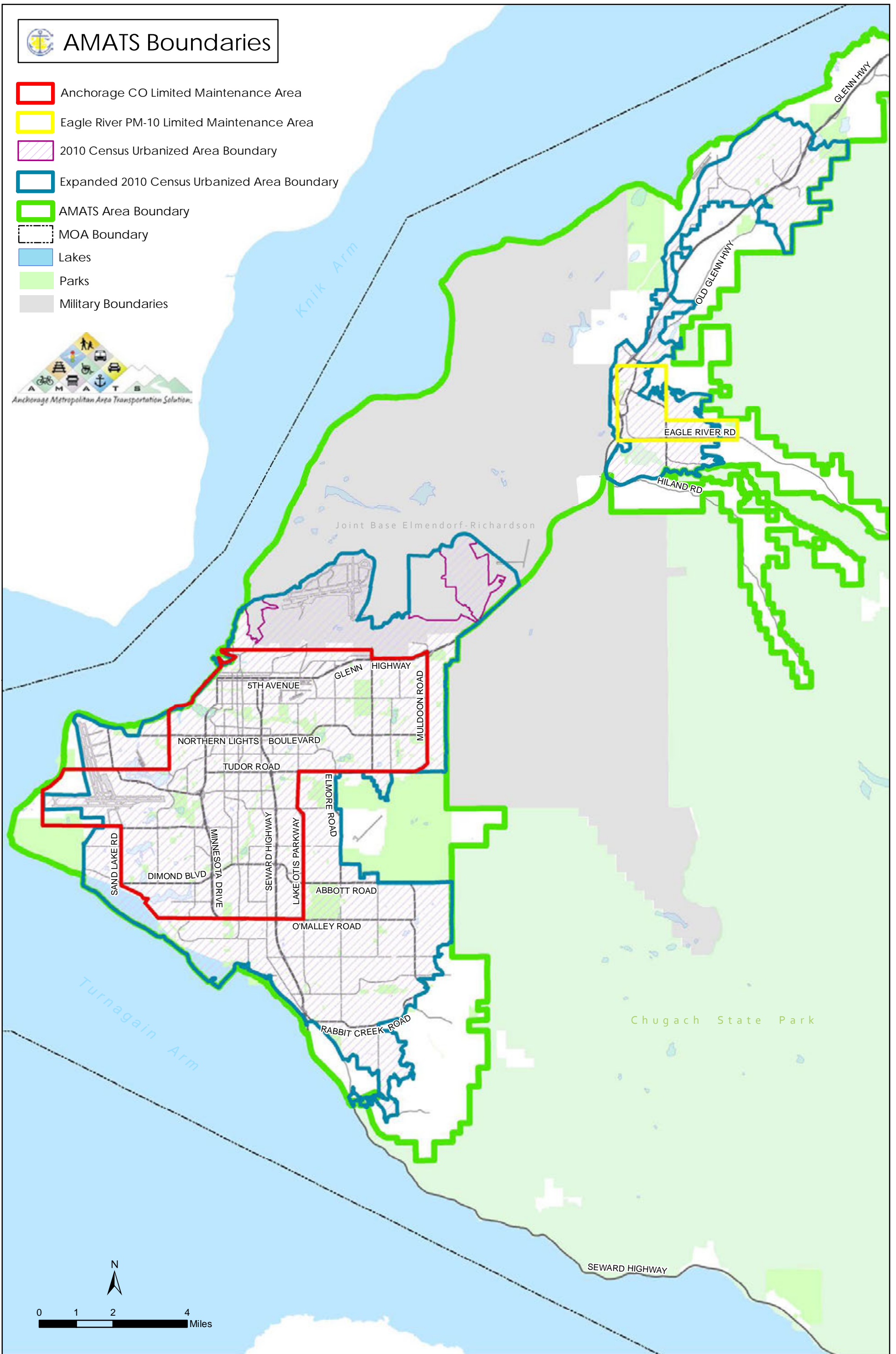
Anchorage has several mechanisms in place to leverage its Federal resources. AMATS recently used Crowd Sourcing to meet the local match requirement for the Freight Mobility Study Update that is currently underway.

15 APPENDIX A: AMATS Boundary Map



AMATS Boundaries

-  Anchorage CO Limited Maintenance Area
-  Eagle River PM-10 Limited Maintenance Area
-  2010 Census Urbanized Area Boundary
-  Expanded 2010 Census Urbanized Area Boundary
-  AMATS Area Boundary
-  MOA Boundary
-  Lakes
-  Parks
-  Military Boundaries



16 APPENDIX B: Municipality of Anchorage Governance Process

Executive Branch Organization

