



# ANCHORAGE CLIMATE ACTION PLAN 2ND ANNUAL REPORT

2021

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**ANCHORAGE**  
Climate Action Plan

# EXECUTIVE SUMMARY

**OUR GOAL: Reduce emissions by 80% from 2008 levels by 2050,  
with an interim goal of 40% by 2030**

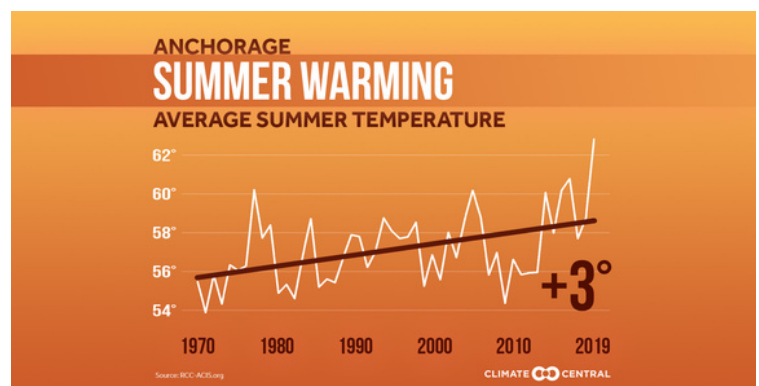
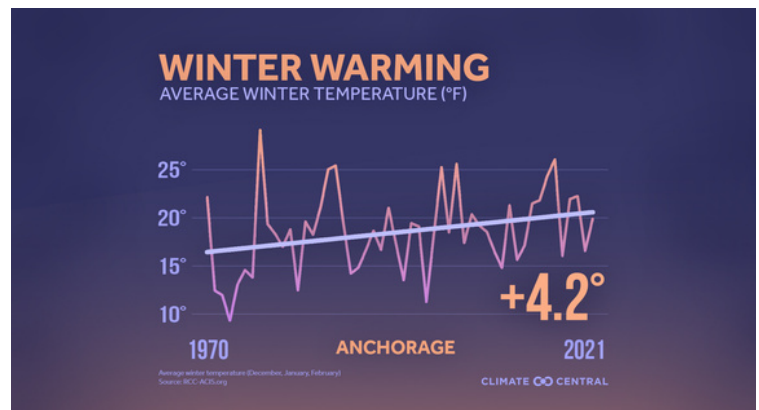
The Municipality of Anchorage Assembly adopted the Anchorage Climate Action Plan (CAP) and Strategy in May of 2019, a roadmap for reducing greenhouse gas (GhG) emissions and adapting to changes we're already seeing. The CAP was developed in partnership with the University of Alaska Anchorage with the input of hundreds of residents. Climate change poses threats to our infrastructure, public health, and wellbeing. Responsible initiatives can reduce costs and risks.

The CAP set specific visions, objectives and actions to support the Municipality in achieving its overall 2030 and 2040 emission reduction targets. The actions include municipal and community activities with a focus on actions the local government can take to reduce climate change and prepare for the impacts we're already seeing. Such actions, like developing more community gardens and incorporating electric vehicles, are good steps toward increasing community resilience and decreasing emissions.

According to the 2022 UN Intergovernmental Panel on Climate Change (IPCC) report, the impacts of climate change are outpacing our ability to adapt, with nearly half of humanity living in the danger zone and many ecosystems at the point of no return. The Department of Defense is doubling down on rapid renewable energy development, sharing that climate change is exacerbating security risks for the U.S. and the world.

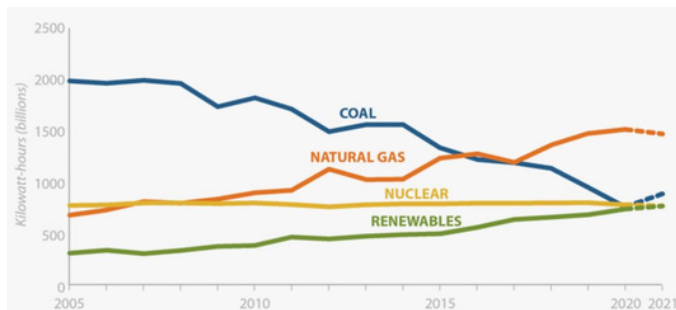
Alaska is feeling the effects of a warming climate. Temperatures are increasing twice as fast as those in the Lower 48, rising by over 4 degrees in winter and 3 degrees in summer since 1970.

Average winter temperatures in Anchorage have warmed 4.2°F since 1970, bringing more rain-on-snow events and higher costs to maintain infrastructure and trails and clear roads and sidewalks. While December of 2021 Anchorage was much colder & drier than normal, December is the month with the fastest rate of warming in Anchorage. Trends show that Anchorage residents can expect more snow in the winter and decreasing snow in the spring and fall. The work we do across the sectors below is essential to keep Anchorage on top of climate change reduction and adaptation.



# CLIMATE YEAR IN REVIEW

Globally, emissions increased 6.2% in 2021 compared to the previous year, according to an analysis published by the Rhodium Group. After more than a decade of downward trends, a 17% surge in coal-fired power generation and a rapid uptick in road transportation are the major culprits of the emissions increase. While emissions remained below pre-pandemic levels, it marked the first annual increase in coal reliance since 2014. Transportation, the largest source of greenhouse gas emissions in the U.S., rose 10% over the previous year. While emissions rose nationwide in 2021, the U.S. also added 15,317 megawatts of new clean energy capacity in 2021, a 23% increase from the same period in 2020. Looking ahead, solar energy represents 54% of our future clean energy pipeline.



U.S. power generation by energy source in billions of kWh, 2005-2021. Does not include distributed generation.  
Source: Rhodium Group, EIA

In 2021, Anchorage continued to make strides toward overall resilience and climate action, expanding renewable energy generation, saving energy and money through citywide energy upgrades, creating a new clean energy financing mechanism, and more. Over 80 Anchorage homes installed solar energy in 2021, adding to a total of 657 solar meters throughout the city.

The Municipality has committed to completing a Greenhouse Gas (GhG) Inventory to measure and verify progress over time. Volunteer experts through the Thriving Earth Exchange are leading this work to review the GhG 2015 inventory baseline and develop one for 2020. While updates are scheduled annually, five-year updates are more realistic due to the required expertise and workload.

Due to shifting priorities in the administration, coordinated climate-centered work is decreasing within the Municipality. The Energy & Sustainability Coordinator position has been cut and the Energy & Sustainability Manager position has shifted to work more narrowly within Solid Waste Services, the home of the city's sustainability efforts. The Recycling Coordinator position is currently vacant.





# IMPLEMENTATION AND ACCOUNTABILITY



## INTERNAL ACCOUNTABILITY: MAYOR'S RESILIENCE SUBCABINET

The goal of the subcabinet is to implement the city's resilience strategy and the recently adopted Climate Action Plan and Strategy. Per the Anchorage Climate Action Plan, the subcabinet would meet quarterly to review implementation responsibilities, report on progress, and discuss challenges. Additionally the subcabinet would work on the annual Climate Action Plan progress report and a work plan for the following year. The subcabinet last met in spring 2021.

## EXTERNAL ACCOUNTABILITY: CLIMATE EQUITY COUNCIL

The CAP identified a Climate Equity Council to help guide implementation of the plan with a focus on equity. The council shall be an independent leadership body composed of diverse Anchorage residents who share a desire to tackle social justice issues related to climate action. The council will engage diverse communities and develop climate justice leaders, while simultaneously strengthening trust between Anchorage residents and decision-makers.

The council will strive towards the equitable distribution of benefits and costs of Municipal climate initiatives and their implementation, and ensure that equity and inclusion are at the forefront of environmental policies.

A cohort with Leadership Anchorage, a program of the Alaska Humanities Forum, is developing a path toward launching the council. The cohort joined this project in December 2021, working together until spring.



LEADERSHIP  
ANCHORAGE



## Saving Energy

Reducing energy use by an average of over 30% with LEDs is standard practice in the Municipality. In 2021, the Maintenance and Operations Department installed LEDs at Ben Boeke and Dempsey Anderson Ice Arenas, Russian Jack Greenhouse, West High School Pool, Eagle River Town Center, and Kincaid & Tikishla Parks.

By replacing the lighting system in several downtown parking facilities, the Anchorage Community Development Authority (ACDA) saw a **36% savings** in electrical costs, with greater savings expected once the project is complete.



In 2021, the Municipality launched the state's first C-PACE (Commercial Property Assessed Clean Energy) Program in Alaska.

Commercial building owners may take out a long-term loan through a private lender for a clean energy project and pay it back through a voluntary special assessment on their property tax bill. Alaska joins 22 states with active C-PACE programs. Learn more at:

[www.muni.org/cpace](http://www.muni.org/cpace)

## Generating Energy

More and more Anchorage residents are generating their own energy with solar power. Chugach Electric reported that 85 new solar projects were added to homes in 2021.



Solar and landfill gas to energy generates enough energy to power 60,000 homes in a year

The Municipality has 143 kilowatts of solar generating electricity, up from 85 kilowatts in 2020. This year, Solid Waste Services installed 50k kilowatts of solar at the Anchorage Regional Landfill.



In 2021, municipal solar generated the equivalent of 11,712 gallons of gasoline



In December, the Municipality passed a grant through to NeighborWorks Alaska that allows the non-profit to add a grant match

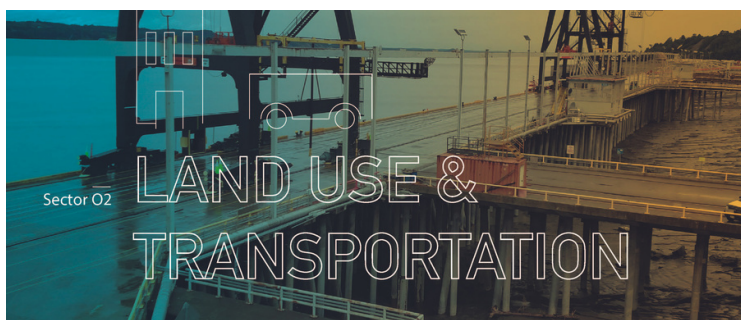
to energy upgrades in homes with a loan product. The \$100,000 grant should be able to help dozens of families install upgrades that save money on energy bills for years to come.

One year into the acquisition of ML&P by Chugach Electric Association (Chugach), the utility reported savings achieved by combining functions. Chugach expects these efficiencies to continue as integration efforts are completed. In October, a savings of about \$21 million had been realized from fuel, labor, and the elimination of intergovernmental charges. Even though they saw an 8% demand reduction from commercial members due to COVID-19, Chugach reported that roughly \$1 million a month in fuel alone is being avoided by these efficiencies.

## WHAT'S NEXT?

- Continue to prioritize energy efficiency upgrades in its facilities, such as the ACDA parking LED upgrades
- Market Anchorage C-PACE to Anchorage commercial building owners and local lenders to encourage cost-effective energy upgrades

- Expand C-PACE statute to include new construction and resiliency measures
- Seek funding sources for energy efficiency programs for residents and businesses



## Alternative Fuel Vehicles

Solid Waste Services (SWS) was awarded a grant for nearly \$700,000 to fund Anchorage's first electric garbage trucks (coming in 2022) and test an



innovative battery charger. As part of the project, SWS now operates and gathers data on an all-electric box truck.

When modern all-electric vehicles (EVs) were introduced in 2011, four models had a median range of 68 miles. By 2021 the maximum range for an EV had more than

quadrupled to 405 miles per charge. In Anchorage, an EV emits 62% less emissions than a combustion engine, according to Chugach Electric Association, and costs a third less for fuel.



The Municipality installed a Level 2 electric vehicle charger at the lot east of the Rustic Goat.

## Land Use and Planning

The MOA made progress encouraging sustainable development of land use and community resources for livable neighborhoods, a safe and healthy community, and a sustainable economy.

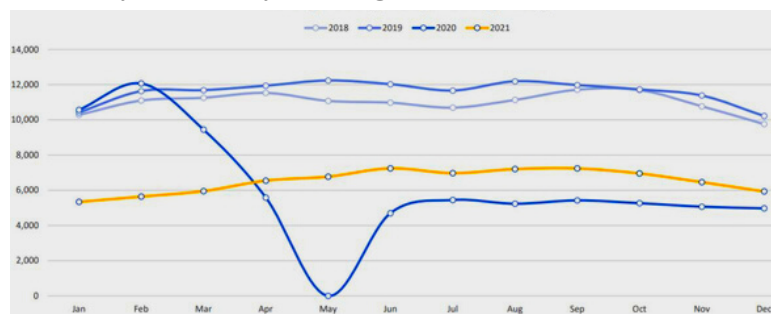
Some of the progress is listed below:

- Completed draft of OUR DOWNTOWN District Plan, taking a renewed look at the potential changes needed to support the city center.
- An amendment to Title 21 proposes to create a more pedestrian-oriented environment and allow for more commercial space within mixed-use developments.
- A parking reduction initiative is underway, exploring where parking minimums can be reduced to increase housing units, reduce the cost of development, and encourage public transportation.
- Anchorage Metropolitan Area Transportation Solutions (AMATS) made progress toward the 2050 Metropolitan Transportation Plan which guides planning and programming of federal transportation funding.
- The Non-Motorized Plan was approved by the Assembly in November of 2021.

## Public Transit

People Mover added bus route 85, a direct route to the library. This was the number one recommended project in Transit on the Move - the transit plan developed to expand frequency, connectivity, and coverage of the bus system. Prior to COVID-19, ridership had increased, reversing years of decline. Ridership is slowly rebounding, up 33% from 2020, but still below pre-pandemic levels.

## Monthly Weekday Average Ridership



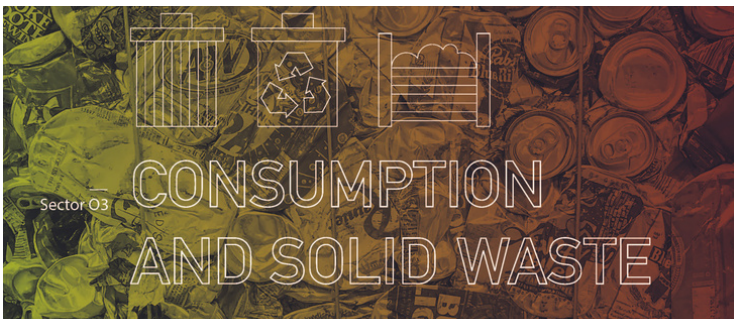
**Kudos to the Public Transportation Department which won Infrastructure Plan of the Year for its 2021 Report Card from the American Planning Association!**

## WHAT'S NEXT?

- Continue to develop the Metropolitan Transportation Plan, scheduled for completion in summer of 2024
- Complete the 2023-2026 AMATS Transportation Improvement Program (TIP), a short range project plan for transportation improvements; criteria include air quality and vehicle miles traveled reduction

- Incorporate electric garbage trucks into operation at Solid Waste Services and collect and share data
- Future-proof new Central Transfer Station and new municipal construction to prepare for growth in electric vehicles
- Participate in the development of the Alaska EV charging network plan within the Alaska Electric Vehicle Working Group





SWS was awarded a \$90,000 grant from the U.S. Department of Agriculture for a compost study and an additional 500 roll carts for Curbside Compost.



30-40% of food is wasted in the U.S.

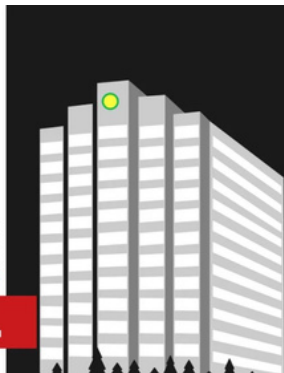
The study is complete and offered near, mid and long-term composting solutions. SWS is considering all options. A pilot two-year project with leased equipment would allow the utility to train and better understand the composting process. This would provide locally produced compost and reduce the amount of waste material disposed of in the landfill. SWS is now reviewing economics and staff capacity.

**265,000  
TONS**

of trash a year  
move through the  
Central Transfer Station

... That much trash can fill the

**BP building  
in garbage every  
MONTH.**



80% of Anchorage trash comes through the Central Transfer Station. A new transfer station will replace the inadequate and deteriorating current facilities. The new facility includes a cogeneration unit which produces electricity and heat from a single source of power. The system will be able to automatically switch to standalone backup power in the event of a local grid failure. The return on investment on the installed costs for SWS is expected to be less than 4.5 years and provides a lower carbon footprint.



**Organics Management  
Feasibility Report**

**Organics Collection and Processing within  
The Municipality of Anchorage**



**>60,000  
Homes**

The equivalent number of homes powered by landfill gas generated at the Anchorage Regional Landfill last year.

## WHAT'S NEXT?

- Expand curbside compost
- Increase trash diversion
- Explore markets for recycled glass composite material
- Incorporate electric vehicle garbage trucks and collect operational data
- Continue construction of the new Central Transfer Station, completion scheduled for mid 2023
- Identify path for processing landfill leachate to reduce trucking to wastewater treatment plant



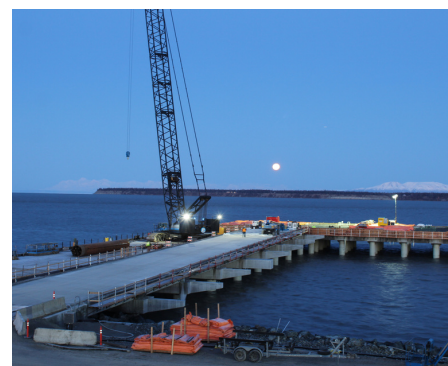
The MOA has continued to respond to the COVID-19 pandemic, moving from emergency response to ongoing response and management at the Anchorage Health Department. The Office of Emergency Management (OEM) also assisted MOA Maintenance & Operations and Girdwood Fire & Rescue in their joint response to the Girdwood storms and flooding over Halloween weekend.

In an effort to continue building a culture of preparedness in the Municipality of Anchorage, the OEM formalized the Emergency Response Team (ERT) strategy guide and official roster. The team is made up of people from the municipal workforce in various departments who have committed to staffing the emergency operations center (EOC) during a response to a disaster. They devote time and effort to education and training in order to effectively fill their roles in the EOC. This team, managed by OEM staff, will continue with education and training in 2022 and prepare for the next EOC activation.

OEM is also updating its All Hazards Mitigation Plan and Comprehensive Emergency Operations Plan.

Language access is important to providing mitigation information to deaf, hard of hearing, sight impaired and English as a Second Language residents. An equal language access grant was awarded to OEM in late 2020 and the project is underway beginning with a website redesign.

The Port of Alaska (PoA) in Anchorage is Alaska's primary inbound cargo-handling facility. It handles three-quarters of all Alaska's inbound,



non-fuel freight which ultimately reaches 90 percent of all Alaska residents. Two PoA programs address climate change and/or greenhouse gas emissions. PoA's modernization program is replacing aging docks and related infrastructure to:

- Improve operational safety and efficiency,
- Accommodate modern shipping operations,
- Improve resiliency – to survive extreme seismic events and Cook Inlet's harsh marine environment, and
- Increase dock height four feet to accommodate sea level rise.

PoA is also developing a connected microgrid with renewable power generation and storage to:

- Improve resiliency and provide backup power,
- Reduce power costs,
- Support modern cargo / fuel-handling operations, and
- Reduce greenhouse gas emissions.



*Ruane Road damage in Girdwood from flooding, October 2021*

## WHAT'S NEXT?

- Advance Port of Alaska modernization and power program planning and permitting efforts and seek state, federal and private funding for project development and construction

- Update Comprehensive Emergency Operations Plan
- Increase preparedness of the Emergency Response Team through continued training and education
- Adopt updated All Hazards Mitigation Plan and integrate into local comprehensive plans
- Improve language access for residents





Anchorage Parks and Recreation Department (P&R) helps people learn to grow food and compost. P&R manages nearly 250 community garden plots, including 45 new garden plots at Chanshtnu Muldoon Park. The Park also has a food forest with 40 fruit trees and hundreds of plans and shrubs that, once mature, should produce upwards of 10,000 pounds of food a year.



95% of the \$2 billion of food Alaskans purchase is imported

Stickleback Farm, an urban sustainability farm and Native heritage garden at a municipal lot at 3rd & Ingra, is being developed by Alaska Seeds of Change and multiple other community partners. A master plan and two site-specific technical reports will serve as a guide as the farm and garden progress.



Master Plan for the municipal lot at 3rd & Ingra St.



A dedicated team of garden coaches across each of Anchorage's 37 community council areas are volunteering their time to mentor anyone who wants to garden through Anchor Gardens. The program's mission is to make gardening resources and expertise accessible to everyone in the Municipality of Anchorage, regardless of income or home ownership status. The program has added 500 new backyard gardens in the last two years!



Anchor Gardens promoting local food growing for residents

## WHAT'S NEXT?

- Continue to maintain and grow urban food growing opportunities
- Support the Stickleback Farm through longer permitting cycles



## Water and Wastewater

Anchorage Water and Wastewater Utility (AWWU) is developing two projects that generate energy from water flowing through pipes. AWWU anticipates creating over 500-megawatt hours annually, or the equivalent of about 75 homes' electricity use for one year!

## Firewise Planning

The hazard of wildland fire in Anchorage is heightened due to homes within the boreal forest, according to the Anchorage Fire Department (AFD). Experts advise that worsening emergencies, such as fires, due to climate change will continue to require local and state emergency services. AFD works with Firewise, a national program that focuses on principles that define how a home and its surroundings survive a wildland fire in an effort to limit the spread and intensity of the fire. AFD has worked with private landowners to treat approximately 900 acres of land where homes exist. The Municipality is now developing necessary secondary access routes in areas such as Bear Valley and Eagle River where there is only one way in and one way out.

## Ecosystem Resilience

The Parks and Recreation Department continues to battle spruce beetle kill and invasive plants, replacing them with healthy trees and native vegetation. This ongoing effort puts youth to work and improves the health and safety of our community.

Beetle kill presents an aesthetic blight and a fire hazard. This effort provides immediate employment to furloughed and under-employed residents. Affected trees are also a falling hazard.

Parks and Recreation Department also continues to reduce the establishment and spread of invasive species (plants, insects, aquatics, wildlife) to make our urban forest more resilient to environmental change.

Did you know: the Parks and Recreation Department maintains 10,946 acres of municipal parkland; 224 parks with 82 playgrounds; 250 miles of trails and greenbelts and more!



*The Parks and Recreation Department unveiled Dena'ina Athabaskan-inspired renovations to Frontierland Park in October 2021*



*Youth work to improve parks and trails with the Parks and Recreation Department*

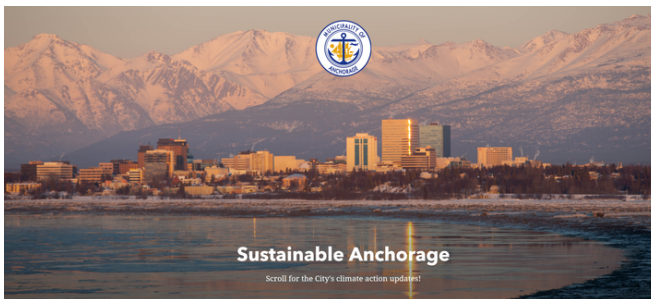
## WHAT'S NEXT?

- Update the urban forest management plan to establish best management practices for MOA's urban forest
- Enhance inter-agency communication for wildfire mitigation and emergency response
- Mitigate wildfire hazards of spruce beetle kill
- Continue to combat the spread of invasive species
- Complete the 92nd Avenue turbine project, estimated to generate 330 megawatt hours annually
- Expand public education about the value of watersheds, rain gardens, and low-impact development to address stormwater runoff
- Support efforts to protect and restore parks, wetlands, wildlife corridors, and riparian corridors to maintain wildlife and fish habitat





The Municipality manages nearly 50 Boards and Commissions compiling around 450 residents engaging to help make our community an even better place to live.



Follow Anchorage's progress at:  
[www.muni.org/sustainability](http://www.muni.org/sustainability)



Learn how you can fight climate change in Anchorage:  
[www.muni.org/ResidentAction](http://www.muni.org/ResidentAction)

### Stay engaged with the Anchorage Climate Action Plan

1. Email [ClimateActionPlan@anchorageak.gov](mailto:ClimateActionPlan@anchorageak.gov)
2. Reach out to your local, state, and federal elected officials to share your input on climate change
3. Talk to your friends and neighbors about climate action in Anchorage
4. Read the Climate Action Plan and Strategy at [www.muni.org/ClimateActionPlan](http://www.muni.org/ClimateActionPlan)

## WHAT'S NEXT?

- Utilize effective and inclusive outreach methods and reduce barriers to participation in planning processes, new projects, and programs
- Encourage the development of career and technical education programs focused on supporting clean energy and infrastructure jobs (e.g., renewable energy, net zero building, and the electrification of transportation and infrastructure)

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Title 21 R-4A Zone Multifamily Residential Mixed-Use District Amendment

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Infrastructure and Investment Jobs Act: <https://www.fhwa.dot.gov/bipartisan-infrastructure-law/>

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The Anchorage Climate Action Plan was written by the Anchorage community, for the Anchorage community. The Plan was adopted May 21, 2019 by the Anchorage Municipal Assembly.

For more information, or to view the 2019 Climate Action Plan, visit [www.muni.org/climateactionplan](http://www.muni.org/climateactionplan)