

Transportation & Mobility Subcommittee Recommendations to the County Council: Interim Report

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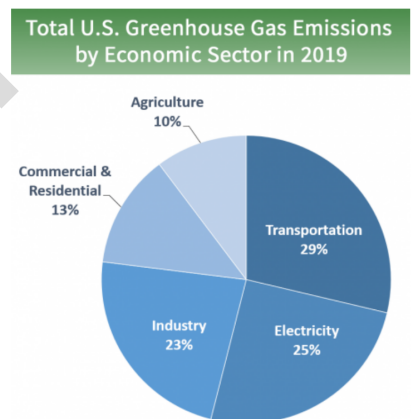
Introduction

Reducing our GHG emissions from transportation sources will contribute significantly to reducing our overall carbon footprint. The Environmental Protection Agency (EPA) estimates that **29%** of our nation's GHG emissions come from transportation

(<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>). Living in a spread out and isolated area like Los Alamos requires driving most places, and our emissions are higher than the nation's average. The LARES Task Force's Waste, Consumption and Natural Resources subcommittee, using data from Christopher M. Jones and Daniel M.

Kammen in their paper [Spatial Distribution of U.S. Household Carbon Footprints](#)

[Reveals Suburbanization Undermines Greenhouse Gas Benefits of Urban Population Density](#) (*Environ. Sci. Technol.*, 2013, dx.doi.org/10.1021/es4034364), estimates that LA County's emissions from transportation are closer to **37%** of the County's total GHG emissions. Reducing single-rider car trips within the County and on/off "the Hill," encouraging public transportation use and biking/walking as a means of commuting and getting around, and in general reducing daily miles traveled are where we as a community will see the biggest reductions in emissions.



Convenience is one of the major reasons we drive as much as we do, and single-occupant vehicles are the largest problem. Changing behaviors and habits to use public transport and/or carpooling takes effort and planning. Convenient travel to and from public transportation stops is equally important as the main trip itself. If riders are unable to access a stop due to poor connection or inaccessibility, transit becomes ineffective. This is commonly known as the "first and last mile" problem.

The more we bike, walk, carpool, and take public transportation, the fewer emissions and pollutants in our air. This will improve our community's health by breathing cleaner air and will also get us moving more. Some areas of the county are better connected to biking and walking/hiking trails than others.

The better connected our network and the safer the pathways, the more people have access to healthy alternatives to driving personal vehicles.

Los Alamos County Public Works and Parks and Recreation, the Transportation Board (T-Board), and Atomic City Transit (ACT) have been working on addressing many of these issues, and we wish to acknowledge the work LAC, T-Board and ACT have been doing: increasing bus ridership on ACT, experimenting with alternative bus route pick up/drop off access, electrifying the LAC and LAPS passenger fleet and the ACT bus fleet, installing Electric Vehicle (EV) charging stations at the LAC Municipal building, improving walking/biking trails (specifically the expansion of the Canyon Rim Trail), and the T-Board's Bicycle Transportation Plan (BTP), which seeks to improve and expand the bicycling network and the safety/access of bicycling as transportation for residents, students, and visitors.

This thorough and detailed plan already proposes many of the recommendations of the LARES Task Force's Transportation Subcommittee. Indeed, this excellent document shares the data collection and community outreach efforts, the completed bicycle infrastructure improvement projects such as sharrows, side paths, multi-use paths, and "priority streets," as well as future projects such as biking trails and improved infrastructure. It would be unwise of this subcommittee to try to significantly improve upon what has already been presented in this plan. Minor updates and recommendations which are NOT listed in the BTP document will be submitted in this report under the "Recommendation for Improvement of Bicycle Infrastructure" section.

In the same vein, the County of Los Alamos Resolution No. 10-32, A Resolution on the Policy of Designing Public Streets and Rights-of-Way in Los Alamos County, adopted on 9 November, 2010, to better accommodate "transit riders, pedestrians, cyclists, those with disabilities, and enhancing safety and convenience for us all," as well as "pursu[ing] community-wide independence from hydrocarbon energy sources." **Our County Council has already recognized that we need to make changes to our community's habits and reduce our reliance on fossil-fuel vehicles.** Incentivizing and encouraging carpooling, using the bus (school, ACT, Senior Van), and bicycling will help us meet this goal.

Addressing current and future transportation needs through capital investment and ongoing maintenance will reduce our GHG emissions and will make Los Alamos a healthier community and an even better place to live. Community education and outreach will be critical to getting residents to change their habits and access public transportation, commute on their bicycles, and make other necessary adjustments to reduce emissions. Everyone will benefit from cleaner air.

The research effort for each focus area has been undertaken by one or two members of the Transportation subcommittee, and the recommendations below reflect various stages of completion. All recommendations are subject to further modification, addition or elimination as subcommittee work continues through 2021.



Protocol & Scope of Transportation Subcommittee

Much of the following is edited and/or annotated text from the Greenhouse Gas Protocol (GHGP): *Global Protocol for Community-Scale Greenhouse Gas Emission Inventories*. (<https://ghgprotocol.org/>) Changes and annotations are intended to provide emphasis on transportation Greenhouse Gas (GHG) emissions that are relevant to Los Alamos County. The GHGP has been designed to allow community GHG inventories to be aggregated at subnational and national levels by establishing a consistent data-collection protocol.

Community transportation GHG Emissions can either be wholly contained within the community boundary, intra-boundary (e.g. a county-only bus route) or, across boundaries into neighboring communities, transboundary. There are typically four types of transboundary trips:

1. Trips that originate in the county and terminate outside the county,
2. Trips that originate outside the county and terminate in the county,
3. Regional transit (buses) with an intermediate, stop (or multiple stops) within the county,
4. Trips that pass through the county without stops.

To understand and manage transboundary-transportation GHG will require collaboration with the originating and/or terminating communities for transboundary trips. A common protocol such as the GHGP, or mutual agreement to manage GHG otherwise, will be essential for independent communities to collaborate and successfully reduce collective GHG emissions.

Los Alamos National Laboratory (LANL) lies within Los Alamos County, but Los Alamos County Government has little influence and no direct control over any GHG-generating activities at LANL. For the purpose of evaluating and managing transportation-GHG emissions, consistent with the GHGP, LANL will be treated as a neighboring community. Any transportation originating or terminating at LANL will be considered a transboundary trip.

A significant fraction of vehicular traffic within Los Alamos County, and the corresponding transportation GHG emissions, is transboundary traffic to and from LANL. Furthermore, a significant portion of the non-LANL Los Alamos County workforce, both government and commercial, commute transboundary from communities outside of Los Alamos County. This means that a significant portion of transportation GHG emitted within Los Alamos County is transboundary; trip types 1, and 4 for LANL commuters, and trip types 2 and 3 for government and commercial workers who reside outside of Los Alamos County.

The GHGP subdivides emissions reporting into different scopes, 1, 2, and 3, increasing in rigor, complexity, and accuracy; an acknowledgement that it is not reasonable for most communities to jump from zero GHG accounting to a complete evaluation (scope 1, 2, and 3) immediately. For transportation, scope 1-3 are as follows:

Scope 1: All GHG emissions from the transport of people and freight occurring within the county boundary, or intra-boundary trips.

Scope 2: All GHG emissions from the generation of grid-supplied electricity used for electric-powered vehicles. The amount of electricity used should be assessed at the point of consumption within the county boundary.

Scope 3: The out-of-county portion of all transboundary GHG emissions from trips that either originate or terminate within the county boundaries. This may include the out-of-county portion of on-road transit that burns fuel. (Additional Scope 3 emissions for transportation is detailed in the GHGP, but is not included here for simplicity.)

All fuel sales from in-boundary fuel dispensaries should be accounted for in Scope 1, even though fuel purchases may be for transboundary trips. Maintaining all fuel sales emissions in Scope 1 also enables more effective multi-community aggregation. Scope 3 emissions require a more rigorous methodology and collaboration with neighboring communities, to allocate transboundary emissions, and allocate other Scope 3 transportation GHG. Scope 2 emissions are presently not included in the transportation subcommittee scope.

The gasoline and diesel fuel data that is summarized in ENERGY USE AND GREENHOUSE GAS EMISSIONS IN LOS ALAMOS COUNTY: 2000 – 2020, by Robert Gibson, satisfies much of the Scope 1 data reporting, and can be used as a baseline for future measurements. This data set includes Los Alamos County government fuel use, and commercial fuel sales. Fuel sold at Los Alamos County Airport should be included as Scope 1 data. Los Alamos County government has direct influence over governmental fuel use; and cannot control usage of commercially-sold fuel. However, governments can influence commercially sold fuel with incentives and laws, especially for intra-boundary and round-trip commuters to LANL that originate in Los Alamos County.

A broad objective to reduce governmental fuel use, to reduce GHG emissions, is important, but inadequately specific to enable Los Alamos County government to develop and/or change policies that are necessary to make significant reductions in GHG emissions. Additional details, regarding fuel use by Los Alamos County departments, is necessary to target suggestions and policies that will reduce fuel usage. Fuel-apportionment data may already be available in existing accounting records; if not, then additional effort to collect this data will be required.

In June 2021 Los Alamos County joined the Coalition of Sustainable Communities New Mexico (CSCNM). This is an important step that could enable collaborating with neighboring communities for many sustainability topics, including Scope 3 transportation GHG emissions. After Los Alamos County has some experience as a member of this organization, and is hopefully witnessing the rewards of facilitated collaboration between some New Mexico communities, Los Alamos County should consider encouraging LANL and other neighboring communities to become members. This would offer a potential benefit of collaboration between

communities to reduce the Scope 3 GHG emissions from transboundary transportation. The benefits of membership for LANL and other neighboring communities would likely extend well beyond collaboration on transportation GHG emissions.



Just a few of the many biking, hiking and walking trails in Los Alamos

Recommendations Overview

- **Increase Public Transportation Ridership**
 - In Partnership with Regional Transit, Increase and Incentivize Regional Transit Use for Commuters From Out of LA County (Española, Pojoaque, Santa Fe, Albuquerque)
 - Develop an “Alternative Transit” Incentivization Program for Employees of County, Schools, and Community Business (and LANL)
 - To Encourage and Improve Local Public Transit Ridership, Address “First and Last Mile” Needs
 - Continue to Invest to Increase Bus Frequency and/or Other Kinds of On-Demand Service
 - Provide Evening and Weekend Atomic City Transit Service
 - Develop a Smartphone Ridesharing App to Help Residents and Commuters Get Around
 - Do a County Assessment for Commuter Needs
- **Improve Bicycle and Walking Infrastructure to Promote Safe and Convenient Carbon-Free Transportation**
 - Implement the Transportation Board’s Recommendations Outlined in the Bicycle Transportation Plan
 - Green Boxed Bike Lanes
 - Protected (or Buffered) Bike Lanes
 - Create a Bike-Only Path Between Los Alamos and White Rock (not on the main road)
 - Bike Lane and Walking Path on Omega Bridge
 - Expand Safe Routes to School Program
- **Increase publicly accessible electric vehicle charging infrastructure**
 - EV Charging Access in Public Locations and Private Parking Lots
 - EV Charging Access in Multi-Family Housing Areas
 - EV Charging in Neighborhoods
- **Increase the Number of Electric Vehicles (EV) in LAC, ACT, and LAPS Fleets, Eventually Making 100% of Light Duty (Passenger Cars and Trucks) Plug-In Electric**
- **Implement Shaded Parking and a County-Wide No Idling Policy**
- **Launch Municipal Bike Share Program**
- **Encourage Private Electric Vehicle Purchase and Charging During**
- **Increase Number of Crosswalks (Some with Lighting)**
- **Convert Municipal Small Engines, Such as Lawn and Garden Equipment, to be Fossil Fuel Free**
- **Invest in Consistent, Ongoing Community Outreach and Education**

Time Frames

Immediate (3 months-1 year)

Short-Term (1-2 years)

Medium-Term (3-5 years)

Long-Term (6-10 years)

Ongoing (10+ years)



Recommendation 1: Increase Public Transportation Ridership

Strategy

- In Partnership With Regional Transit, Increase and Incentivize Regional Transit Use for Commuters From Out of LA County (Espanola, Pojoaque, Santa Fe, Albuquerque)

Time Frame: Short-Term and Ongoing

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Impact/Examples in Other Communities

In some cities and companies provide lunchtime shuttles increase in frequency to help facilitate commuters' needs.

Economic Impact

Costs

Savings

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

Consideration of Fuel Cell buses- ask Annette about this

Strategy

- Develop an “Alternative Transit” Incentivization Program for Employees of County, Schools, and Community Business (and LANL)

Time Frame: Short-Term and Ongoing as Needs Change



Get to work another way!



Background

- Approximately 60% of LANL employees live outside of Los Alamos County (<https://apnews.com/article/new-mexico-science-los-alamos-nm-state-wire-4e212834a77d42b0b5727f5d04c1148e>). This means the majority of Laboratory workers are commuting at least 34 miles round-trip each day (Española and Pojoaque are both 17 miles from Los Alamos, Santa Fe is 34 miles).
- Incentivization programs from employers are used in many cities across the country and the world, helping commuters choose a “greener” way to get to and from work. These programs have been wildly successful in reducing traffic and emissions. Companies large and small, universities, and even the US Government offer their employees incentives to use public transit, to carpool, to give up their parking pass, or to “get to work another way.” Many businesses organize vanpool and ride sharing for their employees. Mobile platforms and apps for rideshare matching or finding the quickest way around using public transportation and/or carpooling are easy to use, accessible to anyone with a smartphone, and very effective.

Outcome

- More public transit riders means fewer emissions released, not only in Los Alamos County, but neighboring communities. More frequent buses and additional routes mean more convenience and more options for riders.

Case Study

The following information is taken/modified from <https://ops.fhwa.dot.gov/publications/fhwahop18071/ch4.htm>:

In 2016, the Luum company worked with Delta Dental of Washington (DDWA) to implement an incentivized commuter program. Employees had the ability to decide how best to commute to work on a daily basis and to meet the parking constraints of their new office, through the following options (Luum, 2017):

- **My Commute Hub:** A one-stop-shop with tools and resources to support employee commute choices.
- **Daily Parking:** All employees have the option to drive when needed. Employees are only charged for the days they choose to drive and the charges are automatically deducted from their paycheck.
- **Daily Bonus:** Employees receive a bonus for each day they commute by any mode other than driving alone, including telecommuting.
- **Reduced Rideshare Parking:** Free parking for vanpools and split parking charges for carpools discourage single-occupancy vehicles.
- **Fully Subsidized ORCA (One Regional Card for All) Cards:** Passes provided by DDWA cover transit and vanpool fees. ORCA cards are fare payment cards accepted in the Seattle region on buses, ferries, or trains.

Since starting its MyCommute program, DDWA has achieved the following (Luum, 2017):

- A 60 percent reduction in the drive-alone rate, down to 15 percent post-move.
- A 100 percent participation rate in the MyCommute program.
- Four new vanpools.
- Retention of 100 percent of employees after moving from the old office to the new office.

Impact and Examples in Other Communities

Incentive programs around the country are helping workers get to their jobs in a “greener” way:

- Texas Children’s Hospital in Houston, TX, offers options: a free bus pass, or if you give up your parking pass you get an extra \$50/month.
- Neighborhood Eco-Pass in Boulder, CO, is subsidized by the city with the aim of reducing single occupant vehicle (SOV) trips. This pass, called NECO, offers a greatly reduced rate for an annual pass than single-trip tickets. SOV trips have declined by 7.7 percent since 1990. (National Research Center, Inc., 2016).
- The program “Access MIT” in the greater Boston area encourages employees to use mass transit by giving a free, unlimited access pass to all employees, offers flexible daily parking rates rather than a more expensive long-term pass, and subsidized parking at transit hubs.

- The City of Aurora, CO, offers discounted prices to the light rail and bus. They even designed the light rail to run past the City Building to encourage ridership.
- The City of Eugene, OR, offers free bus passes for all employees.
- US Customs and Border Protection employees a SmarTrip pass onto which the government loads a certain dollar amount each month to be used for transportation to/from work.
- FlexPass at UC Berkeley, CA: Parking is a problem on this campus. Employees and students are incentivized to use an alternative way to get to campus and earn money back on the parking permit they did not use. Up to \$131 per month in parking rebates were issued to individuals during a 2015 trial. This was done via the FlexPass app.
- Princeton University in Princeton, NJ, offers a subsidized transit pass for commuters using public transportation.
- Acumed in Portland, OR, has annual \$25 TRIMET (light rail and bus) passes and a commuting program with rewards for highest percentage of days biking to work.
- Cities, universities and businesses alike use discounted transportation passes as well as prizes, drawings, cash benefits, and other incentives to encourage employees and residents to use the bus, tram, light rail, and train.

Economic Impact

- **Costs:** Atomic City Transit is already free to residents. However, increasing frequency and number of routes will increase the need for drivers and will increase the fuel needs and maintenance of vehicles as well as upkeep of bus stops (or adding more). Cost of incentives to riders/employees will largely fall to employers.
- **Savings:** fewer drivers on the road will mean slightly less wear-and-tear on the roads and thus less road maintenance and less frequent repaving, painting, and filling of potholes. It may also result in fewer accidents and the repairs needed afterwards.

Benefits Other than CO2 Reduction

- Community & Individual Benefits:
 - Greater community connection ("bus friends," older and younger residents being more visible in the community)
 - More money in the pockets of residents and other commuters will result in more local spending in shops and restaurants

Challenges & Anticipated Barriers

- The **Anti-donation** Clause of the **New Mexico** Constitution may prevent some challenges to this recommendation <https://ua.unm.edu/anti-donation.html>)
https://www.rodey.com/uploads/FileLinks/cff57958d69146eb9e548fa755102759/rodey_anti_donation_clause_history.pdf

Community Outreach

- Changing habits is hard. The County and other players will need to undertake a major public campaign for increased routes/service and upping ridership. ACT is already working on this, as the Pandemic crushed ridership rates.

References/Resources

Most data and information in this section were found here:

<https://ops.fhwa.dot.gov/publications/fhwahop18071/ch4.htm>

<https://www.cbp.gov/employee-resources/worklife-balance/transportation-benefits/ptip>

<https://boulder.colorado.gov/goboulder/neighborhood-eco-pass>

<https://www.luum.com/>

<http://www.metropia.com/>

Strategy

- To Encourage and Improve Public Transit Ridership, Address “First and Last Mile” Needs

Time Frame: Short-Term (1-2 years) and Ongoing as Transit Changes

Background

- More and more cities and towns are addressing this “first/last” mile challenge of commuters, that is, closing the gap between the first/last mile of their commute via public transportation. Getting from home to a bus stop or from the bus stop to work may be the main reason people do not take the bus: if the stop is more than ¼ mile (<https://humantransit.org/2011/04/basics-walking-distance-to-transit.html>), many people will not see it as convenient enough to “bother” with and will just drive their cars.
- Multi-modal transportation, taking more than one mode of transit to a destination (riding a bike to the bus stop then taking the bus to work, for example), does not seem to come easily to Americans. Many ride their bikes, many ride the bus, but few do both.
- Many communities have closed the “first/last mile” gap through various forms of micro-transit: bike/scooter shares, Lyft/Uber stops, or shuttles that go from a main train/bus line to more residential or rural areas.

Outcome

Impact/Examples in Other Communities

Economic Impact

Costs

Savings

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

<https://www.apta.com/research-technical-resources/mobility-innovation-hub/first-last-mile-solutions/>



Roundabout between North and Barranca Mesas

Strategy

- Continue to Invest to Increase Bus Frequency and/or Other Kinds of On-Demand Service

Time Frame: Immediate and Ongoing

Background/Research/Data (Baseline or other)

- While this is already a priority for Atomic City Transit, we would be remiss if we did not list this as a recommendation.

Outcome

- The more frequent and convenient the bus service, the more people will consistently use the bus, reducing traffic, air pollution, and GHG emissions.

Impact/Examples in Other Communities

Economic Impact

- **Costs:**
 - Increased service will require more drivers and more maintenance on buses
 - Community outreach and encouraging ridership

Benefits Other than CO2 Reduction

- Reduced Traffic
- Reduced air pollution
- More citizen interaction and community connection
- Fewer parking issues

Challenges & Anticipated Barriers

- Getting ridership “back up to normal pre-COVID” is already a challenge facing ACT
- “First/last mile” problem

References/Resources

https://www.pedbikeinfo.org/factsfigures/facts_environment.cfm

Strategy

- Provide Evening and Weekend Atomic City Transit Service

Time Frame: Short-Term and Ongoing

Background/Research/Data (Baseline or other)

Outcome

- Increased frequency of buses means more convenience to riders, which will increase ridership and reduce GHG emissions from passenger cars (often SOVs).

Strategy

- Weekday evening service could run until 8:00pm
- Saturday service could run from 8am to 8pm
- Sunday service? Maybe just main routes and/or a “Smith’s” direct from each mesa/neighborhood area (call it something else) and LA-WR service
- Consider starting evening and weekend service with Friday night concerts

Impact/Examples in Other Communities

Economic Impact

- **Costs:**
 - This will require more staff/drivers for extended routes/hours as well as potential
 - Increased maintenance on buses
- **Savings:**
 - Residents will be driving less, which means less wear-and-tear on County roads
 - Cost savings to residents in gasoline and wear-and-tear on personal vehicles

Benefits Other than CO2 Reduction

- Job Creation
- Less traffic
- Fewer parking issues
- More people eating out and attending evening events in town, which will increase revenue to local businesses and restaurants

Challenges & Anticipated Barriers

- Increasing ridership depends on increasing bus service/frequency, yet increasing bus service/frequency costs more money with no guarantee of increased ridership. Increased ridership will take time and patience on the part of ACT. At a certain point, empty buses circulating are just contributing to GHG emissions, so ACT and other transportation experts will need to carefully plan extended service routes, days and times.

Community Outreach/Public Education/Educational Materials

- As addressed just above in “challenges” section, increased ridership and increased bus service go hand-in-hand. A successful increase in residents riding the bus will depend on reliable service, convenient routes, and public outreach. The community must know of increased service and must be encouraged (using multiple means) to start riding the bus. Marketing campaigns, newspaper articles, banners on the overpasses, flyers in mailboxes, sandwich boards, table tents in restaurants, social media, and other strategies must be employed to really “get the word out.”

References/Resources

Strategy

- Develop a Smartphone Ridesharing App to Help Residents and Commuters Get Around

Time Frame: Short-Term and Ongoing

Background

- While old-school carpooling and ride-the-bus campaigns are a great option for many commuters, new and innovative ways to encourage travelers to “get around another way” are greatly helped by smartphone apps. Mobile platforms such as AccessMyCommute, Metrotopia, RubyRide (and many others) help travelers to find alternative modes of transportation and reduce single-occupancy vehicle trips.
- In an isolated community such as ours, “going off the Hill” for shopping or other needs is a necessity. Going to Espanola, Santa Fe, or Albuquerque is something all residents do with some frequency. This is easiest in one’s own car, often resulting in a SOV trip. While most adult residents can come and go on and off the Hill as they please, this is harder for older residents and teenagers who cannot yet drive. This also presents a challenge to short-term residents or foreign visitors or workers who may or may not have a vehicle.
- Providing a ride-sharing platform online and via smartphone app will not only help teens, older citizens, and temporary residents get around, it will encourage others to carpool and “see if someone else is going.” They can plan their trip together, whether one-way or round-trip. This app may even make it easier just to ask someone who has posted that they’re going to Santa Fe and Trader Joe’s is on their route, “Hey, when you’re at Trader Joe’s, could you pick me up some...?”
- This ride-sharing app will also provide opportunity for residents to carpool to and from the Santa Fe and Albuquerque airports. Ride sharing will not be limited to the Northern New Mexico area. Indeed, people could look for rides to/from neighboring states and cities (Tucson, El Paso, Las Cruces, Denver, Grand Junction and Salt Lake City), reducing car trips and plane rides. Making ride sharing convenient and accessible is critical for people to start to think of this as a viable means of getting around.
- Ride-sharing takes effort and planning. Creating an app will make this much easier for all residents.

Examples in Other Communities

- Blablacar, a French app available in 22 countries (though not the USA), is a convenient and inexpensive way for residents and tourists to get rides from one place to another.

After downloading the app, one simply inputs the date and time one needs (or can offer) a ride, the starting and ending locations, and the price. One author of this report has used this on many occasions with great success. According to the Blablacar website, 1.6 million tons of CO₂ were saved by BlaBlaCar carpoolers in 2018.

- In 2019, Park City, UT, (Municipal) partnered with Canyons Village Management Association, Deer Valley Resort, and Park City Mountain to launch [Ride On Park City](#). This app/internet platform allows employees and partners of these organizations to find a carpool match, real time transit information, e-bikes, and more. Park City estimates that they have already prevented 46.1 tons of CO₂ emissions, and taken nearly 15,000 non-single occupancy trips in the region.

Economic Impact

- **Costs:**
 - Initial cost of app development and ongoing maintenance, public awareness/advertising campaign.

Benefits Other than CO₂ Reduction

- Community connection- many people make friends when ride sharing
- Residents without cars will have access to rides
- Residents with cars can make a little money by sharing rides

Challenges & Anticipated Barriers

- The use of this app will be voluntary. Anyone who may be concerned about personal privacy will not have to use this platform.

Community Outreach

- There will need to be community education about the app's existence and how to use it effectively.

References/Resources

<https://ops.fhwa.dot.gov/publications/fhwahop18071/ch4.htm>

<https://www.blablacar.com/>

<https://parkcity.rideamigos.com/#/>

Strategy

- Perform a County Assessment for Commuter Needs

Time Frame: Short-Term

Background/Research/Data (Baseline or other)

is there a need for additional buses to/from santa fe to support tourism and errand running?

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies/

Impact/Examples in Other Communities

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

Recommendation 2: Improve Bicycle and Walking Infrastructure to Promote Safe and Convenient Carbon-Free Transportation

Background

- As previously stated, the LAC Transportation Board already has an excellent Bicycle Transportation Plan (BTP) in place. This plan was adopted on June 27, 2017. The LARES Task Force heartily endorses the recommendations in this document. We submit the following sub-recommendations in addition to those listed in the BTP:
- It's no secret that bicycles offer a healthy and fun alternative to fossil fuel-based transportation while helping to curb emissions. It is important that bicycle transportation be safe for cyclists and motorized drivers. The safer and easier we make this option, the more people will see it as a realistic way to get around, whether it be the commute to and from work and school or going to friends' homes, accessing local businesses and public spaces, or even just a fun family ride around town.
- According to Project Drawdown, just under 3% of the world's urban trips were done by bicycle in 2018. Nations with thriving programs, policies, and infrastructure, such as the Netherlands

and Denmark, see a significantly higher ridership rate, 27% and 18%, respectively (<https://drawdown.org/solutions/bicycle-infrastructure>). These trips are completed with almost zero emissions. Designated bicycle paths and lanes help reduce traffic in cities and towns, create community amongst riders, and promote a healthy lifestyle and clean air for citizens. Normalizing and encouraging bicycle transportation is key to its success.

- Many US cities have ambitious biking and walking goals. Minneapolis, MN has a goal to increase bike trips from 3% to 10% by 2030. In California, San Francisco's goal of converting 80% of all local trips to bicycling, walking or public transit by 2080 by continuing to implement its "Transit-First Policy" as well as engaging with businesses, employers and residents to encourage using active and public transportation.
https://www.pedbikeinfo.org/factsfigures/facts_environment.cfm
- The Los Alamos townsite has a good start to a bike-friendly community by creating bike lanes, bike lane/slow vehicle signage, and sharrows. White Rock is already bike-friendly as it consists nearly entirely of residential streets; the new community of Mirado and a crossing to the rest of White Rock should be considered. There is room for improvement, however.
- Increasing the number of bicyclists (commuters and pleasure riders) is key to reducing GHG emissions and safe biking is imperative for increasing the number of cyclists on the road.



Bike lane and bike/low speed vehicle signage on Diamond Drive near Golf Course

Strategy

- Implement the Transportation Board's Recommendations Outlined in the Bicycle Transportation Plan

Time Frame: Short-Term and Ongoing

Background

- The 2017 Bicycle Transportation Plan put out by the LAC Transportation Board is an excellent document with many practical and tangible recommendations. This document outlines plans, costs, and other information needed.

Benefits Other Than CO2 Reduction

- Equity: While Los Alamos is in general a wealthy community, not all residents are economically secure. Improving the bicycle infrastructure for residents allows for getting around town via bike, bus or walking without having to own a car. This is an advantage for young people and for those who are unable to drive. We should design this with all ages and abilities in mind.

References/Resources

https://www.losalamosnm.us/UserFiles/Servers/Server_6435726/File/Government/Departments/Public%20Works/Engineering%20and%20Project%20Management%20Division/2017%20Bicycle%20Transportation%20Plan%20Adopted%206-27-17.pdf

Strategy

- Green Boxed Bike Lanes (a.k.a Bike Boxes) and Protected/Buffered Bike Lanes

Time Frame: Immediate and Ongoing

Background

- Green boxed bike lanes, or bike boxes, are green-painted rectangles (with a white outline) at intersections and other areas of the bike lane that provide a safe refuge for bicyclists to either cue ahead of cars or to make a two-stage turn. Bike boxes help increase safety for bicyclists by reducing right-hand hooks by cars and by helping bicyclists navigate tricky intersections. These green bike lanes enhance visibility where there is the potential for a problem and instead create safe, predictable pathways for bicycles so that cars know what to expect (cyclists) and where to expect them.

- Thermoplastic is the most commonly-used material for this purpose in US cities as it lasts far longer than typical street paint.





Photos courtesy of Dottie Knecht, Sunny Summers, Jill Summers (Salem, OR) and Sean Patton (Washington, DC)

- Protected (or Buffered) Bike Lanes with “shy” distances offer extra space and protection of bicyclists from cars. These are often a double white line with a diagonal stripe connecting the two sides. Protected bike lanes have been shown to increase ridership and improve the confidence of cyclists in many communities in recent years. For example, the City of Seattle found that ridership increased more than 400% when a painted bike lane was upgraded to a protected bike lane using flexible posts (also known as bollards), similar to those we have coming down off of Barranca Mesa at the roundabout.
- Flexible bollards/lane delineators are often anchored into asphalt, though there is also the option of glueing down). These bollards come in many different colors and create high visibility for bicycle lanes and other traffic dividers. Improves safety equals increased ridership.



Buffered bike lane, photo courtesy of Ryan Kanter (Corvallis, OR)



Bollards at the North/Barranca Mesa roundabout



Protected bike lanes, photos courtesy of Sean Patton (Washington, DC)

- Protected bike lanes in Washington, DC, not only offer safe cycling for riders but they also allow for extra parking for cars.
- There are several areas of Los Alamos townsites that would benefit from green boxed bike lanes: downtown on Central and Trinity in several locations, the “new” roundabout at the entrance of town, the entrance to the Canyon Rim Trail and Entrada Drive as one leaves town, turning in and out of Northern Community (Urban Park area) streets from Diamond Drive, the “old” roundabout near Barranca and North Mesas, certain areas of North Mesa and downtown where there are a lot of apartments.
- White Rock is already a very safe bicycling community. The recent addition of the Mirador subdivision across NM4 in White Rock might be a good place to consider highlighting some green bike paths.

Outcome

- Higher visibility bike lanes will be safer bike lanes and bike riders as well as more aware drivers. Safer biking will lead to more bike commuters and a decrease in emissions.

Case Study

- The city of Corvallis, Oregon (population 55,000 and home to Oregon State University), identified the top 12 most critical intersections for the first year of implementation. Now that they’re in 2nd year, they are expanding to another 12 intersections.

***waiting on data from Josh Capps

Examples in Other Communities

- Green boxed bike lanes are seen in:
 - **Major cities** such as Seattle, WA; Denver, CO; Portland, OR; Washington, DC; and Sacramento, CA

- **Medium-sized cities** such as Arlington, VA; Salem, OR; Westminster, CO; and Eugene, OR
- **Small cities** such as Isle of Palms, SC; Bend, OR; and Durango, CO (to name just a handful!)

Economic Impact

● **Costs:**

- This is a relatively small investment for an important safety improvement. Green Boxing Bike Lanes skip striping the mixing zones with green thermoplastic. As of February, 2020, the price was roughly \$5.50/Sq. Ft. (Corvallis, Oregon), or \$3 – \$6 Sq. Ft. for raw materials, \$10 – \$14 Sq. Ft installed (NACTO).
- The estimated cost for bollard installation is \$105 per linear foot, which includes labor (2018 price from LAC).
- There may be some cost considerations about how to deal with debris or snow in bike lanes.

● **Savings:**

- More bike commuters means fewer vehicles on the road and thus less road maintenance

Benefits Other than CO2 Reduction

- Safe transportation for those who cannot drive
- Increased biking leads to improved health and fitness
- Pleasure biking
- Family and community connectedness

Challenges, Anticipated Barriers & Other Needs

- Parking, snow plowing, street sweeping may need to be considered.
- Winter maintenance: Salt Lake City prioritized “snow plowing schedule for bikeways” in their “Bicycle and Pedestrian Master Plan.”
 - This city uses small Kubota plows that fit within the protected bike lanes to clear them of snow; LAC’s inventory shows a 3026 Bobcat Skid Steer w/ Plow (Parks & Rec Inventory) which looks as if it can do the job if needed.
- If there will be an increase of bike commuters, there will need to be more bike racks/bike “parking” in town and at work places.

Notes on Thermoplastic: No Known Issues with Thermoplastic in Water

-Roger Geller, City of Portland, OR, Head of Department of Transportation: he has never heard this question, doesn’t believe it to be a problem compared to all other pollutants, no data available.

-Ivy Dunlap, Landscape Architect, City of Portland Bureau of Environmental Services: “Given all the other pollutants, sediment, and trash from roadways, the paint would be a minor consideration. If anything at all.”

-Julia Bond, Water Quality Expert, from City of Portland Bureau of Environmental Services: “I don’t have any specific research to point to on this specific topic, nor am I familiar with the specific compounds in the paints used in street marking, but I think it is fair to say that anything applied to the road surface may eventually get into stormwater, either through leaching or from particulates that flake off over time. That said, compared to other stormwater roadway pollutants, particularly those from cars (tire particles, metals from brakes, motor fluids, PAHs, etc.), the overall contribution from road paint is likely very small and probably would not be detectable in the nearby stream. That also assumes that there is no stormwater treatment of road runoff.”

*I inquired in Seattle and Denver but have not heard back

*Ask LAC traffic engineers

*Ask water people or regional water what is deposition from tires (heavy metals, other), pollution, traffic paint, other pollutants?

References/Resources

Street maintenance and snow issues: <https://nacto.org/downsized-street-maintenance-vehicles/>

carfreediet.com

nacto.org (in general)

https://www.pedbikeinfo.org/factsfigures/facts_environment.cfm

<https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/colored-pavement-material-guidance/>

https://www.pedbikeinfo.org/factsfigures/facts_environment.cfm

https://coloradosprings.gov/sites/default/files/fhwa-separatedbikelane_design-guide-small_0.pdf

<https://www.bendoregon.gov/home/showpublisheddocument/47764/637381859539770000>

Strategy

- Create a Bike-Only Path Between Los Alamos and White Rock that is not on the Main Road

Time Frame: Medium-to-Long-Term and Ongoing

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies/

Impact/Examples in Other Communities

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

Strategy

- Bike Lane and Walking Path on Omega Bridge

Time Frame: Medium-Term (address when Omega Bridge is replaced)

Background

- The Omega Bridge was built in 1951, making it 60 years old and near the end of its useful life. Currently there is maintenance being performed of the bridge, but it will not significantly extend the life of this bridge. Whether there is a new bridge built in its place (or next to it), this presents an opportunity to provide safe walking and biking paths for commuters.



The Omega Bridge as seen from Los Alamos Canyon

Outcome

- Increased commuting via walking and biking
- Less traffic and congestion
- Less air pollution

Impact/Examples in Other Communities

- The League of American Bicyclists has compiled a list of bridges around the country that offer bicycle- and pedestrian-friendly passage, with examples in Minnesota, Washington, California, Oregon, New Jersey, Pennsylvania, Connecticut, New York, and the District of Columbia. This is often a lane separated from passenger vehicles or a second “story,” with the bicycle and foot traffic going over or under the cars.
https://bikeleague.org/sites/default/files/selected_interstate_bridges_bicycle_access.pdf

Economic Impact

- **Costs** (not necessarily to LAC):
 - Cost of new bridge (whether with walking/biking paths built next to or underneath passenger vehicle traffic way) or
 - cost of maintaining current bridge for foot and bike traffic only

Benefits Other than CO2 Reduction

- More commuting by walking and biking
- Improved health and increased active lifestyles of residents
- More cyclists and walkers visible in the community (and to cars) encourage others to also walk/bike to work
- Higher biker visibility also means car traffic is more aware of others commuting by foot or bike, which makes it a safer mode of transport for everyone

Challenges & Anticipated Barriers

- The Omega Bridge is owned and maintained by the Federal Government, which means that the bridge’s future may be out of our hands. Hopefully they will seek input from the community using the bridge as to what happens next.

Community Outreach

- Community members should be able to give input of what they would likely to see in a new, updated commuter bridge.

References/Resources

https://bikeleague.org/sites/default/files/selected_interstate_bridges_bicycle_access.pdf

Strategy

Expand Safe Routes to School Program

Time Frame: Short-Term and Ongoing

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies/

Impact/Examples in Other Communities

“Safe routes to schools,” many communities like Bend, OR, have these plans in place
Corvallis, OR/ Jay Thatcher

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

<http://www.saferoutesinfo.org/>

<https://www.bendoregon.gov/home/showpublisheddocument/47764/637381859539770000>

Other Bike-related ideas:

- Active Travel Corridors- ways to get around that you can't access by car (paths, streets that don't go through for a car but do for a walker or a biker)
- Kids' bike training in elementary PE classes
- More bike parking/bike racks
- Amenities at work to facilitate biking (showers, changing room, lockers, etc.)
- Public-Private partnerships for discounts on biking needs and walking shoes

Recommendation 3: Increase Publicly Accessible Electric Vehicle Charging Infrastructure

Background/Research/Data (Baseline or other)

- As time goes on, more and more electric vehicles will be manufactured. Estimates vary, but GM and other car makers have pledged to phase out gasoline engine vehicles as early as 2025. This means demand for EV charging stations will soar as they become the dominant vehicle driven by consumers. This will mean competition in getting the limited amount of EV Charging parking spots in existence.
- Schools, businesses, the County, and other private enterprises will need to look into installing EV charging stations for employees and customers. Indeed, even residential areas may need charging stations. Yes, residents can charge at their homes, but there may be guests, out-of-towners, and other reasons for installing neighborhood charging stations. Likewise, apartment complexes and other multi-family housing areas will need EV charging infrastructure.
- Other public locations such as sports complexes, hiking trail heads, and the White Rock Y will need EV charging infrastructure.

Outcome

- Increased availability and access to EV charging stations will encourage EV purchase among residents
 - EV Charging Access in Public Locations and Private Parking Lots
 - EV Charging Access in Multi-Family Housing Areas
 - EV Charging in Neighborhoods

Impact/Examples in Other Communities

Economic Impact

- **Costs:**
 - Initial cost of each charging station as well as infrastructure implementation and labor—this is where most of the cost is.
- **Savings:**
 - County, school, police, and residential vehicles can be fueled/powered by renewable energy and will reduce the cost of gasoline purchased

Benefits Other than CO2 Reduction

- Convenience
- Encouraging and supporting residents to purchase EVs
- Cleaner air (less pollution)

Questions, Challenges & Anticipated Barriers

- What voltage will these public charging stations supply?
- How long will consumers be permitted to charge?
- Will there be a penalty if they overstay their time?
- What times of day? Does it matter?
- Will this take away parking (street parking, lot spaces, schools, other)?
- Will this be provided by the County or by the landlords/property owners? Both? Schools?

Community Outreach/Public Education/Educational Materials

- There will need to be a lot of outreach to residents about how and when to use EV charging stations.

References/Resources

Recommendation 4: Increase the Number of Electric Vehicles (EV) in LAC, ACT, and LAPS fleets, Eventually Making 100% of Light Duty (Passenger Cars and Trucks) Plug-In Electric

Time Frame: As Many and Soon As Possible, Yearly Additions

Background

- Los Alamos County, ACT and PEEC are already investing in EVs for their fleet. ACT has two electric buses on order. Our community is lucky to have these entities taking the lead in the transition to electric vehicles. We need to continue and to step up these efforts, and expand them to the Schools and Police vehicles.

Outcome

- With an all-electric fleet of vehicles, the County, Atomic City Transit, the Public Schools, and the Police will be greatly reducing their GHG emissions.

Strategy

- The County will set targets as to how many vehicles will be replaced each year with an EV. We know there is a schedule of vehicle replacement; it seems reasonable that when a vehicle is scheduled to be replaced, it will be replaced with an EV.
- The County and other major players (schools, police, other) should be required to **justify** purchasing gas-burning vehicles as opposed to emission-free cars.

Impact/Examples in Other Communities

- Dozens of other communities, such as **** and XXXXXX are converting their passenger and work trucks to electric vehicles. Car manufacturers are releasing new EVs in both passenger cars and trucks. Ford, for example, has just announced an electric F150 truck at a pricepoint of \$40k. A “regular,” new, gas-buring Ford F150 costs \$30k.
https://www.ford.com/trucks/f150/f150-lightning/2022/reservation-information/?dealerPACode=05778&postalCode=INSERTDEALERZI&qclid=CjwKCAjw_o-HBhAsEiwANqYhpyuGNiKwQ7c257eyqLyjd9HTLWXzg341Zi-T1yMa3cMdU57x2yNHjhoC6H0QAvD_BwE

Economic Impact

- **Costs:** Cost of new vehicles and training of technicians/mechanics to maintain EVs
- **Savings:** Lower gas/diesel bills as vehicles use less and less fossil fuel over time

Benefits Other than CO2 Reduction

- Air quality improvement/less pollution
- Lower risk of wildfire (sparks from cars, gasoline exploding in car crashes)
- Lower vehicle noise pollution

Challenges & Anticipated Barriers

- Auto mechanics will need to keep up with the changing technology (battery pack maintenance, coolant changing, suspension changes,). Knowledge of changing oil and old engine function will change to reflect the newer electric engines.

Community Outreach/Public Education/Educational Materials References/Resources



<https://cleancities.energy.gov/technical-assistance/idlebox/>

Recommendation 5: Implement Shaded Parking and a County-Wide No Idling Policy

Time Frame: Immediate and Ongoing (permanent), with a few exceptions

Background

- Idling vehicles wastes fuel and creates unnecessary greenhouse gas emissions, and many municipalities and school districts have implemented “no idling” policies. Idling can use between quarter to a half gallon of fuel per hour, depending on type of vehicle/engine size and whether the air conditioner (AC) is in use (<https://www.fueleconomy.gov/feg/driveHabits.jsp>). Argonne National Laboratory researchers estimate that restarting a vehicle takes the equivalent of just 10 second's worth of fuel. (Argonne National Laboratory. 2015. Stop and Restart Effects on Modern Vehicle Starting System Components – Longevity and Economic Factors.)
- Idling cars on hot days to keep vulnerable animals and humans (usually children and fragile adults/elderly) in rare cases can be permitted. Most adults can tolerate rolling down the windows as they wait in their cars. Idling a car on a cold day to stay warm, again, may be appropriate in rare cases. Most adults can sit in a cool car for a short period of time as they wait. We can also encourage (or incentivize) keeping a blanket or sweatshirt in the car. Most waiting in cars is less than 20 minutes.
- Many areas in Los Alamos where people park and idle their cars do not have adequate shade to keep them cool on hot days; local schools and grocery store parking lots are prime examples of this. Working with schools and businesses to plant trees and create more shade will help reduce idling in parking lots, as will covered parking.
- One source of prolific idling is parents waiting for their children outside of school. If school children took the bus which already goes to/from their homes and fewer parents were making extra trips to pick up their children (and concurrently idling their vehicles), we would make a nice dent in our GHG emissions.
- The County already has a “no idling” policy in place for its fleet, but it is not followed or enforced. Time and again when walking around town, we see idling County trucks whose employees are checking meters or performing maintenance, or just sitting and chatting. School trucks idle on streets and in parking lots. Training, buy-in from

employees, and follow-through from superiors is needed to cut idling and the emissions caused by this unnecessary and wasteful action. On hot days they should roll down windows and try to park in the shade, if available. On cold days, dressing appropriately should solve the problem. Using the AC or heater, in most modern cars, does not take long for the hot or cool air to come through the vents.

- Idling cars also pose a safety threat. A car left in gear by mistake can accidentally run over a child, a resident, a pet or other animal. Indeed, USPS policy requires drivers to place the vehicle in “park” and to turn off their engines at each home so that no one is accidentally run over by a mail truck. This also prevents idling as mail carriers unload boxes and carry mail to multiple homes, walking to two or three houses before reloading or moving the vehicle.
- Likewise, County vehicles driving from each individual house to the next may not be the most efficient way to check meters. Parking in a central location and walking from home to home not only uses less fuel but it also allows for exercise for the employee. Home owners will appreciate fewer idling cars on their streets and less wasted gas and taxpayer dollars.

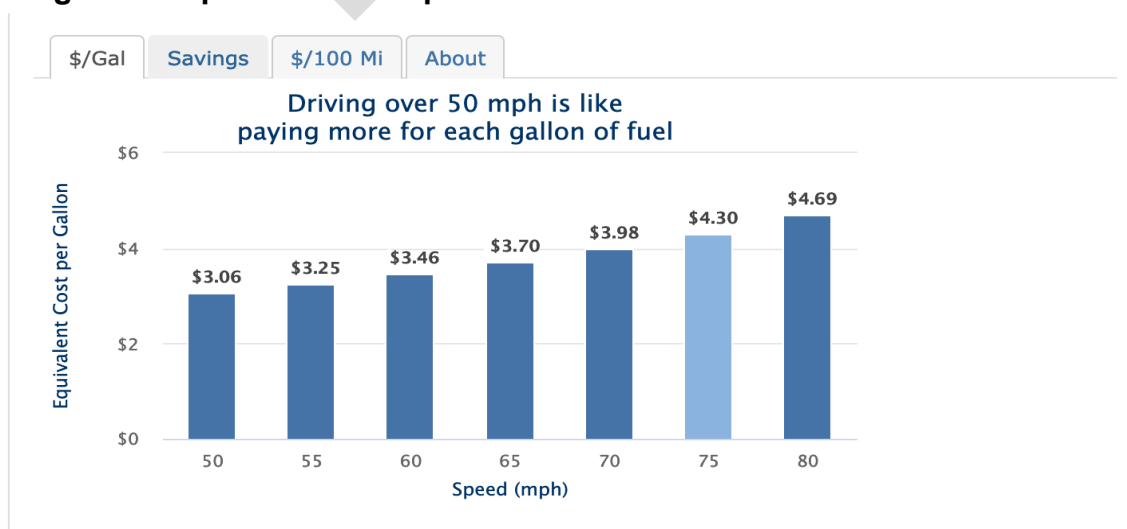
Note: Electric vehicles will not “idle” in the same way as gas and diesel cars and trucks. This policy may eventually become obsolete as the majority of cars become electric (100 years from now!).

Outcome

Argonne National Laboratories have this idling calculator to see how much fuel is used in idling vehicles: https://www.anl.gov/sites/www/files/2018-02/idling_worksheet.pdf

Studies indicate that **how much fuel?**** is saved by not idling.**

Driving above speed limit 55mph increases cost:



Was this graph from Argonne or EPA? **check and cite

Strategy

All County, Police and LAPS vehicles should be equipped with a sun shield for the front windscreen.

- Providing more shade in the form of trees and parking area “covers” will beautify our community (trees), provide carbon capture (trees) and an area where “rooftop solar” could be installed. Imagine the Smith’s parking lot with shaded and County-owned solar on top!

Impact/Examples in Other Communities

- Some school districts, such as Corvallis, OR, have student, teacher, and parent volunteers outside of school during major pick-up and drop-off times with signs reminding car drivers not to idle. Some volunteers need to knock on windows and politely remind/ask drivers to turn off their vehicles.

Economic Impact

Costs:

Savings:

Benefits Other than CO2 Reduction

- Shaded parking!
- Shade covers in parking lots could provide a place for “rooftop” solar panels
- Beautification with tree planting
- Carbon capture with tree planting

Challenges & Anticipated Barriers

- Asking private businesses and land owners to provide shaded parking
- Tree planting in areas of concrete and/or asphalt

Community Outreach/Public Education/Educational Materials

- The US Department of Energy's website has a fabulous “No Idling Toolkit” with a large array of all necessary materials to educate the community: outreach letters, idling savings calculators, bumper stickers, signs, and many other useful materials and data/information. The legwork on this has basically been “done,” we just need to access the resource and print/distribute materials.
- Community outreach will be through articles in the newspaper, mailers in utility bills (or electronic attachments in e-bills), “No Idling” signage in public locations (streets,

schools, parking lots), schools will inform parents and other frequent guests of their no idling policy.

References/Resources

<https://cleancities.energy.gov/technical-assistance/idlebox/>

<https://www.fueleconomy.gov/feg/driveHabits.jsp>

Recommendation 6: Launch Municipal Bike Share Program

Time Frame: Short-to-Medium-Term and Ongoing

Outcome

- Bike share programs around the country are seeing success and are helping to increase the number of people regularly using bikes for transportation. While tourists will also benefit from this fun and convenient way to get around Los Alamos, residents young and old will have access to a bike (regular pedal or electric assist) whenever they need one.

Strategy

Sample Bike Share Creation Timeline (from Corvallis, OR)

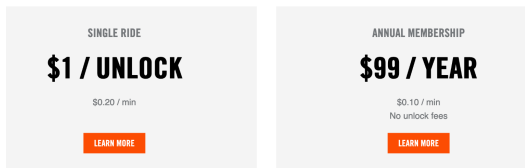
Project Launch	Public Bike Share Survey	Focus Groups	System Design	Public Feedback	Vendor Selection	Installation	Bikeshare Launch
← time here →							

Impact/Examples in Other Communities

- Examples of incentives to use bike shares in various other places:
 - One Free ride and reduce rate ride program
 - One free ride per tourist
 - Reduced rate for punch pass/commuters/high schoolers/middle schoolers
 - Raffle for free community passes
 - Weekly, monthly, 3-month (this would be ideal for LANL summer students), yearly passes
 - 1-ride and 1-day passes

- Most cities use bike share programs run by an outside company. Many bike share programs, such as that in Portland, OR, offer multiple pay-per-use options:
 - For a single ride, cost is \$1 to unlock the bike and \$0.20 per minute
 - Riders can pay a per-hour or per-day rate, some areas offer a per-week rate
 - Annual membership for \$99 per year plus \$0.10/min with no unlock fees
 - Many and varied plans/pay per use depending on company

A FUN AND AFFORDABLE WAY TO GET AROUND



- The Denver, CO, bike and scooter share program offered many discount opportunities to encourage ridership:
 - Nearly 11,000 free passes were given to residents regardless of income level
 - Significantly reduced pricing for need-based groups
 - A reduced rate is offered for what they call “opportunity areas (places in the city with low-vehicle ownership and high transit ridership)”
 - is discounted for commuters and school children.

Economic Impact

- **Costs:**
 - Initial cost of bike share program (bikes, multiple stations, charging if E-bike, public outreach campaign, cost of third party to manage bike share)
 - Ongoing costs of increasing number of bikes/stations around town

Benefits Other than CO2 Reduction

- Contributes to micromobility aimed at commuters, residents, and tourists
- Helps address the “first/last mile” problem of public transportation
- Increases spending at local restaurants during lunch hour
- Increased bike riding = Fun!
- Increased health and wellness of community

Challenges & Anticipated Barriers

- The Seattle, WA, bike share program noted that many people, including school children and economically disadvantaged citizens, were left out of the bike share program because they did not have a smartphone and/or a bank account. They seem to have found a way for these

groups to access the bike share without phone or bank account, but the information is not currently available on their [website](#).

- Many communities we contacted noted that this was best implemented using a third party who maintains the bikes and trouble-shoots. This was too much for city employees to manage. Bike repairs, parking issues, payment problems, etc. all should go through the vendor.
- A few towns had a problem with the bike provider company “going under” and then they were stuck with unusable bikes. Two places who had mentioned this are switching to a new provider.
- Be sure to have clear parking guidelines and enough places for bikes to be parked “legally”
- **Questions:**
 - How many bikes?
 - How many locations?
 - How to keep the “load balanced,” i.e. enough bikes at each station?
 - Whom to contact when there is a problem? Have vendor handle problems.
 - collision or injury
 - parking issue
 - bike mechanical problem
 - can’t release or purchase
 - no bikes available at location
 - E-bike and/or regular bike?
 - Where can/can’t people park bikes? Seattle posts bike parking guidelines: <https://www.seattle.gov/transportation/projects-and-programs/programs/bike-program/bike-share>

Community Outreach/Public Education/Educational Materials

References/Resources

<https://www.pedbikeinfo.org/topics/bikeshare.cfm>

<https://www.denvergov.org/Government/Departments/Department-of-Transportation-and-Infrastructure/Programs-Services/Micromobility-Program?BestBetMatch=bike%20program|95c94ae0-247e-4b0c-b511-f9439cc122bd|c4f1b630-3cf4-4ec1-8110-c4784b6aa32e|en-US>

<https://www.seattle.gov/transportation/projects-and-programs/programs/bike-program/bike-share>

<https://www.biketownpdx.com/>

<https://www.bendoregon.gov/home/showpublisheddocument/47764/637381859539770000>

Recommendation 7: Encourage Private Electric Vehicle Purchase and Charging During Non-Peak Hours

Time Frame: Short-Term and Ongoing

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies/

Impact/Examples in Other Communities

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

Recommendation 8: Increase Number of Crosswalks (Some with Lighting)

Time Frame: Short-Term and Ongoing

Background/Research/Data (Baseline or other)

White Rock/Mirador

Flashing light crosswalks

Crosswalk on Diamond near Urban/Mountain

North Mesa?

Canyon

Downtown

Trinity downtown

We already have one of these at the start of the golf course, works great!



Outcome

Case Study (if appropriate)

Strategy

Impact/Examples in Other Communities

- Carson, CA, intends to add solar-powered lighting and vehicle speed feedback signs near crosswalks to promote traffic calming and encourage active transportation.
- Minneapolis, MN, has a goal to increase pedestrian trips from 16% to 25% by 2030. Strategies include enhancing visibility at pedestrian crossings and increasing street lighting.

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

https://www.pedbikeinfo.org/factsfigures/facts_environment.cfm

<https://www.bendoregon.gov/home/showpublisheddocument/47764/637381859539770000>

Recommendation 9: Convert Municipal Small Engines, Such as Lawn and Garden Equipment, to be Fossil Fuel Free

Time Frame: Medium-Term

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies/

Impact/Examples in Other Communities

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

Recommendation 10: Invest in Consistent, Ongoing Community Outreach and Education to Facilitate Sustainable Transportation Options

Time Frame: Immediate and Ongoing

Background/Research/Data (Baseline or other)

Outcome

Case Study (if appropriate)

Strategy

Sub-strategies

Impact/Examples in Other Communities

Economic Impact

Benefits Other than CO2 Reduction

Challenges & Anticipated Barriers

Community Outreach/Public Education/Educational Materials

References/Resources

<https://www.bendoregon.gov/home/showpublisheddocument/47764/637381859539770000>

Expected Benefits Besides Carbon Reduction

- “Green” Job Creation
- Mobility Improvement for All Citizens
- Increased Health and Fitness
- Raise Awareness of the Impact of Climate Change
- Role Model for Other Communities
- Closer Community - “bus friends,” more out-and-about citizens (bikes, walking, other)
- Educational Opportunities
- Short- and Long-Term Cost Savings to County and Residents
- Ecosystem and Water Quality Protection
- Public Health and Air Quality Protection
- Noise Pollution Reduction
- Reduced Fire Risk

Other Considerations

Carpooling

In 2019, Park City (UT) Municipal partnered with Canyons Village Management Association, Deer Valley Resort, and Park City Mountain to launch [Ride On Park City](#). This app/internet platform allows employees and partners of these organizations to find a carpool match, real time transit information, e-bikes, and more. Park City estimates that they have already prevented 46.1 tons of CO2 emissions, and taken nearly 15,000 non-single occupancy trips in the region.

Air Travel

The Los Alamos Airport does not provide commercial air service and does not contribute in a major way to LA County GHG emissions. However, aviation gasoline, jet fuel, and kerosene (used for the air ambulance) are much “dirtier” burners than regular car gasoline. It is important to provide emergency air service. **How much private flying/fuel? Something to link emergency service to relevance in paragraph

We recognize that the County and County Council have no jurisdiction over resident’s air travel. It can, however, provide platforms to citizens to encourage alternative travel options (online forum for ride-shares for short trips (Santa Fe/Taos/ABQ), information about shuttles and/or carpooling options to the SF and ABQ airports, bus and train information for travel and to get to ABQ airport. For those residents who use Facebook, there could be a page for this service. For those who do not use Facebook there are many other options.

The County could work with RTD to provide a direct airport shuttle from LA to ABQ airport and back or work to provide one or two more buses to the Santa Fe railyard for people to take the train to ABQ. Would the County consider an on-demand or planned voyage shuttle service to/from the ABQ and/or SF airports?



Community “Zip” cars/car share? EVs?

No content yet for this topic.

Aerial Tramway

An aerial tramway from WR to LA or between North Mesa, Barranca Mesa and Downtown, would be a fun and very expensive mode of public transportation. Lunchtime diners could hop on the tram and go to WR for lunch. Morning and evening commuters between WR and LA would no longer clog State Road 4, Main Hill/ Road and the Truck Route. Visiting tourists and locals alike would be attracted by this beautiful and dramatic ride. This would be fun for all ages! Rough estimates start at \$30M.

Questions: Could it go over Lab property? Pajarito Road? Would that be less complicated/fewer players than going through Pueblo land?

Hydrogen Fuel Technology

Hydrogen fuel presents great potential for energy storage from wind and solar arrays. Hydrogen can be used to fuel all kinds of things, including personal vehicles, buses, and heavy-duty trucks (semis, garbage trucks, etc.). We would need to invest (in tandem with LANL?) in hydrogen production and storage in order for this to be a viable option.

Trains

(Rail Runner for ABQ/SF commuters), Lamie, other *look this up!

DRAFT